Indigenous and Local Knowledge in International Law: A Preface to Sui Generis *Intellectual Property Protection*

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A number of parties are "squaring off" over the question of who should share the benefits derived from the exploitation of genetic resources and biotechnology. One of the fault lines that divides disputants is between developed and developing countries; another is between local communities and the dominant socio-economic cultures of the countries within which they are situated.

The globalization of intellectual property laws through international trade agreements such as *TRIPs* and *NAFTA* has contributed to developed countries' reaping the lion's share of the benefits derived from the exploitation of genetic resources. In this article, the author analyses the development, in international law, of means by which local communities and developing countries could increase their own control over others' use of their biological resource-related innovations.

Exactly how these norms should be implemented in domestic law, however, is far from clear. The author argues that one plausible means of implementation would be through policies to increase the participation of indigenous communities in resource management decision-making. Another possible means would be through the creation of national *sui generis* intellectual property laws to protect indigenous and local knowledge. At least in theory, vesting intellectual property rights in indigenous and local communities over their innovations would assist them to stop undesired use of their knowledge and/or compel compensation when it is used.

Une variété de parties est en cours de discussions au sujet de qui devrait partager les bénéfices dérivés de l'exploitation de ressources génétiques et de la biotechnologie. Une des failles qui divise les parties dans ce domaine se trouve entre les pays développés et ceux en voie de développement. Une autre faille se trouve entre les communautés locales et les cultures socio-économiques dominantes des pays dans lesquels ces communautés se situent.

La globalisation des lois sur la propriété intellectuelle, grâce à des accords d'échange international tels que *TRIPs* et l'*ALENA*, a contribué aux énormes bénéfices qu'ont tirés les pays développés de l'exploitation de ressources génétiques. Dans cet article, l'auteur analyse le développement en droit international des moyens par lesquels les communautés locales et les pays en voie de développement pourraient augmenter leur propre contrôle sur l'utilisation par des tierces parties de leurs innovations dans le champ de ressources biologiques.

La façon exacte d'exercer ces normes en droit domestique n'est pas du tout claire. L'auteur propose qu'un moyen plausible d'exercer ces normes serait par le biais de politiques dont le but serait d'augmenter la participation de communautés indigènes dans la gestion de ressources et dans la prise de décisions. Une autre façon serait de créer des lois nationales *sui generis* sur la propriété intellectuelle afin de protéger les connaissances indigènes et locales. En théorie, accorder des droits de propriété intellectuelle sur les innovations des communautés indigènes et locales pourrait aider ces communautés à cesser l'utilisation non-desirée de leurs connaissances et à imposer une compensation lorsque celles-ci sont utilisées.

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Introduction

Through the application of relatively rigid criteria for protection, intellectual property law, as it pertains to genetic resources, tends to favour high-tech innovations that require expensive, long-term institutional investment in research and development. Consequently, a grossly disproportionate percentage of the genetic resource-related innovations that attract intellectual property protection originate from large corporate enterprises in industrialized countries. The globalization of intellectual property law through trade agreements such as the World Trade Organization ("WTO") *Agreement on Trade-Related Aspects of Intellectual Property Rights*[1] threaten to exacerbate this distributional inequality.

There is, however, a nascent movement in international law toward the positive evaluation and protection of more general forms of knowledge. Unlike "mainstream" intellectual property law—which historically has been associated with the advancement of commercial concerns—this new movement favouring recognition and protection of more general forms of knowledge has its roots in human rights, labour, and environmental law. Unlike patent law—which is generic in its extension to any variety of subject matters—this newly evolving law applies to a specific category of substantive knowledge: the environmental and biological knowledge of people and communities that can be described as "indigenous" and/or "local".

This movement has several important potential implications. On a "macro" level, it has some limited potential to redress intellectual property law's asymmetrical dispensation of awards and incentives to "high-tech" innovators and, by extension, to developed countries. Developing countries that would not ordinarily benefit from legal protection for high-tech innovations might derive benefits from the protection of the (mostly low-tech) environmental knowledge of indigenous and local populations within their borders. On a "micro" level, communities or individuals whose knowledge is protected would have a measure of control over the use and dissemination of their knowledge which they would not have had otherwise. Depending upon the strength of the rights that are conferred with respect to the protected knowledge, parties seeking to use it might have to obtain permission from the knowledge holders, compensate them, or at least make formal recognition of them as the originators of that knowledge.

In this article, four interrelated positions are advanced. First, it is argued that there has been a gradual tendency in international law to both recognize the value of indigenous and local environmental and biological knowledge (with a particular emphasis on plants and plant use), and to create rights, privileges, and obligations attendant to the legal recognition of that knowledge.

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[1] Being Annex 1C to the *Final Act and Agreement Establishing the World Trade Organization*, 15 December 1993, 33 I.L.M. 81 [hereinafter *TRIPs*]. See also *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts* (Geneva: GATT Secretariat, 1994).

Second, it is argued that despite this tendency in the law, the international fora within which these issues have evolved so far are not likely to accommodate what would otherwise be the next most predictable (and potentially desirable) development in this area of law—*i.e.*, international legal obligations on states to provide specially tailored (or *sui generis*) intellectual property protections for indigenous and local knowledge. Consequently, further positive developments in this area of law will depend upon both extra emphasis on national law-making, and effective interaction between national policy makers and the two newly created multilateral technical advisory bodies: the Global Intellectual Property Issues Unit of the World Intellectual Property Organization ("WIPO") and the Open-Ended, *Ad-hoc*, Intercessional Working Group on Article 8(j), which is part of the *United Nations Conference on Environment and Development Convention on Biodiversity*.[2]

Third, shortcomings in the evolution of the legal recognition and protection of indigenous and local knowledge and innovations in international agreements from the perspective of indigenous and local communities will be identified. It will be argued that preoccupation with developing legally-analogous protections for indigenous and local knowledge, if not situated in the context of broader struggles for local and indigenous peoples' empowerment, could distract critical energy and potential momentum away from those goals.

Finally, frameworks for future analysis and action that would contribute to the complimentary evolution of intellectual property-style protection for indigenous knowledge and the broader political goals of indigenous and local communities will be suggested. Actual models of *sui generis* indigenous and local knowledge protection will not be considered. The analysis in this article logically precedes studies of substantive models of *sui generis* legislation.

This article is divided into five parts. Part I provides definitions for key terms that are used throughout the article. Part II consists of a historical analysis of the development of intellectual property law in the last forty years as it pertains to plant genetic resources. Parts III through to the Conclusion follow more closely the three-part breakdown of the thesis, as set out above. Part III will provide an analysis of the evolution of the recognition of the value of indigenous and local knowledge in international law. Part IV identifies the shortcomings in the way *sui generis* protection of indigenous and local knowledge is developing *vis-à-vis* the apparent position taken by a number of indigenous and local peoples' organizations. Finally, prescriptions will be made about how to approach the reconciliation of the law's development and indigenous and local concerns.

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[2] 5 June 1992, 31 I.L.M. 818 [hereinafter *Convention on Biological Diversity*].

I. Definitions

Indigenous. The *International Labour Organization Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries, 1989*,[3] is the only international treaty in force that provides a definition of "indigenous". ILO 169 defines "indigenous" peoples as those who have descended from populations that inhabited a country or area within a country at the time of conquest, colonization, or the establishment of present state boundaries, and who, "irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions."[4] ILO 169 adds that "[s]elf-determination as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups to which ... this Convention applies."[5] While this definition does not meet with universal approbrium—it is frequently criticized for giving priority to the histories of the Americas, New Zealand, and Australia, and ignoring the African and Asian historical realities—it will suffice for the purposes of this article.

Local. Despite its frequent use in the *Convention on Biological Diversity*[6] and the *United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa*,[7] "local" is not defined in any international convention. In this article, "local" is intended to embrace a wider class of individuals and communities than "indigenous", though it may include indigenous peoples. Generally, this article uses "local" to refer to communities that are not necessarily indigenous, but who nonetheless share several of the characteristics of indigenous communities living "traditional lifestyles" (to invoke the vocabulary of article 8(j) of the *Convention on Biological Diversity*) that are interesting from the perspective of knowledge protection. These characteristics include the facts that they occupy, or occupied, a particular territory for many generations; that their cultural and economic traditions are integrally connected to their occupation and customary uses of those territories; and that they are distinct on these grounds from the cultural and economic activities of the majority of the population in the country in which they live.

Not all of the conventions and legal documents analyzed in this article refer to "indigenous" and "local" peoples. For example, ILO 169 refers to "indigenous and *tribal*" people. The *Convention to Combat Desertification*[8] refers to "local and *traditional*" people. The *International Undertaking on Plant Genetic Resources*[9] refers to "farmers". For the purposes of this article, "tribal" and "traditional" peoples, as well

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[3] 7 June 1989, 28 I.L.M. 1382 [hereinafter ILO 169].

[4] *Ibid.*, art. 1(I).

[5] *Ibid.*, art. 1(2).

[6] *Supra* note 2.

[7] UN GAOR, 47th Sess., Supp. No. 49, UN Doc. A/47/49, vol. 1, 137 [hereinafter *Convention to Combat Desertification*].

[8] *Ibid.*

[9] UN Food and Agriculture Organization, 22nd Sess., Conf. Res. 8/83 (1983) [hereinafter *International Undertaking*].

as "farmers" are included within the umbrella of "local" peoples. Local communities could also include "peasant" or "campesino" communities engaged in "low-tech" agriculture. It is appreciated that the outer limits of the possible meaning of "local" have not been defined. The groups of people included by specific reference at this point are, however, probably fairly close to the core of what is meant by "local".

Peoples. The use of the word "peoples", and not "people" or "populations" is critical because the *Charter of the United Nations*,[10] the *International Covenant on Economic, Social and Cultural Rights*,[11] and the *International Covenant on Civil and Political Rights*[12] all affirm the right of self-determination of all "peoples".[13] It is this controversial aspect of the meaning of "peoples" that lead to the disclaimer in ILO 169 that use of the word "peoples" in that document was not meant to signify a position with respect to the issue of indigenous and tribal self-determination.[14] Despite this disclaimer, "peoples" remained the preferred term by indigenous and tribal peoples who were consulted with respect to ILO 169 for the additional reason that it "recognizes the existence of organized societies with an identity of their own, rather than mere groupings sharing some racial and cultural characteristics."[15]

Communities. This term is used here as a way to refer to indigenous and local "peoples" without the latter term's political connotations regarding self-determination.

Indigenous and local knowledge. "Knowledge" is not defined in any of the international agreements examined in this article. It is clear, however, that these agreements are not concerned with *all* of indigenous and local knowledge. Instead, they generally restrict their consideration of indigenous and local knowledge to indigenous and local environmental and biological knowledge. For example, article 8(j) of the *Convention on Biological Diversity* refers to "knowledge, innovations and practices ... *relevant for the conservation and sustainable use of biological diversity*."[16] This restriction in scope can be explained in two ways: first, agreements wherein indigenous and local knowledge is most explicitly considered are environmentally oriented—*e.g.* the *Convention on Biological Diversity* and the *Convention to Combat Desertification.* Second, indigenous (and to a lesser extent, local) knowledge is often described as being integrally related to environmental concerns. Indigenous knowledge is often described as embedded in, and inextricably linked to, "the land"; it is described as an

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[10] 26 June 1945, Can. T.S. 1945 No. 7.

[11] 16 December 1966, 993 U.N.T.S. 3.

[12] 16 December 1966, 993 U.N.T.S. 171.

[13] These conventions are all cited in support of indigenous peoples' right to self-determination in para. 14 of the Preamble to the *Draft Declaration On the Rights of Indigenous Peoples*, 28 October 1994, 34 I.L.M. 541 [hereinafter *Draft Declaration*].

[14] M. Tomei & L. Swepston, *Indigenous and Tribal Peoples: A Guide to ILO Convention No. 169*, online: International Labour Organization <http://www.ilo.org/public/english/125polde/papers/1998/169guide/contents.htm#c1> (date accessed: 26 September 1999).

[15] *Ibid.*

[16] *Supra* note 2 [emphasis added].

amalgam of interrelated spiritual, practical, and innovative practices, all of which revolve around reverence for the land and the land's sustainable use.[17]

In addition, indigenous knowledge is frequently described as being collectively derived and held, holistic in nature, stressing the interconnectedness of all things (as opposed to the archetype of Western reductionist scientific thinking and knowledge), incrementally developed, and closely tied to the geographical environment of the culture in which that knowledge adheres. This knowledge can be generally known within a community, or known only to specific people, or groups of people within the community.[18]

The question remains, however, how much, or what quality of local and indigenous ecological and biological knowledge should be protected by a new *sui generis* system of knowledge protection? Where does one draw the line between what is and what is not protectable? Is such a line necessary? In the most extreme scenario—where all possible forms of knowledge are protected—neither the substance nor the form of a single indigenous or local person's utterance on matters related to the environment could be repeated or relied upon without permission. Of course, the position taken by critics of the current system is that the opposite extreme is now the norm; that all knowledge of indigenous and local peoples is currently unprotected, and no one ever has to seek permission to repeat or rely upon anything said or known by indigenous and local people.[19]

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[17] See World Conservation Union, *IUCN Inter-Commission Task Force on Indigenous Peoples, Indigenous Peoples and Sustainability: Cases and Action* (Utrecht: International Books, 1997) at 46; and World Conference of Indigenous Peoples on Territory, Environment and Development (25-30 May 1992), "Kari-Oca Declaration and the Indigenous Peoples' Earth Charter" in D. Posey & G. Dutfield, *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (Ottawa: International Development Research Centre ("IDRC"), 1996) 189 at 196 [hereinafter "Kari-Oca"]: "We feel the Earth as if we are within our mother. When the Earth is sick and polluted, human health is impossible. To heal ourselves, we must heal the Planet, and to heal the Planet, we must heal ourselves." See also "Final Document of the Second International Indigenous Forum on Biological Diversity" in *Report of the Workshop on Traditional Knowledge and Biological Diversity*, UNEP CBD, 1997, UN Doc. TKBD/1/3 at 25 [hereinafter *Report of the Workshop*]:

> Indigenous Peoples come from the land and have been given our life through the land. We do not relate to the land that we came from as property, we relate to the land as our mother. ... Our role and responsibility is to protect our Mother Earth from destruction and abusive treatment, just as we would defend our human mother. In carrying out this responsibility since time immemorial, we have become a central component of the biological diversity of Earth.

[18] See generally, *ibid.*

[19] One fairly obvious temptation would be to superimpose the criterion and categories of intellectual property law onto indigenous and local knowledge in order break indigenous and local knowledge into recognizable, familiar fragments. However, to do so would be to subvert the evident intention of the law. At the very least, indigenous and local knowledge is mentioned in these agreements because it should be subject to some form of special treatment (whether it be intellectual property protection or something entirely different). To interpret *Convention on Biological Diversity*, *supra* note 2, art.

This article does not purport to resolve these problems. In fact, for the purposes of this article, it is sufficient (though by no means necessary) to embrace the idea that indigenous and local knowledge refers to *all* indigenous and local environmental knowledge. This article does not attempt to prescribe, or even analyze, actual possible forms of *sui generis* protection that might be used to protect indigenous and local knowledge. Instead, this study is limited to issues that must be answered before such practical questions can be asked. The present analysis is limited to the primary question of whether or not (according to international law) there can and/or should be intellectual property-style protection for indigenous and local knowledge. An ancillary issue is also investigated: if the evolving legal discourse regarding indigenous and local knowledge does not promote *sui generis* legal protection, what is it leading to? It is in this context that the article examines prescriptions regarding the need for governments to create space for indigenous and local peoples to make policy decisions regarding their own uses of biological resources, and to be included in national policy-making processes generally. Secondary issues such as what parts of indigenous and local knowledge should be protected and what form that protection should take are not examined here. For this reason, this article shall continue to refer to "indigenous and local knowledge" bearing in mind the necessity of eventually addressing whether or not useful qualitative distinctions can and should be drawn between the different forms of that knowledge.

The term "indigenous and local knowledge" is used throughout the body of this article. Some of the other international agreements analyzed within this article, however, use alternative terms. For example, ILO 169 refers to "practices" and "technologies". Both ILO 169 and the *International Undertaking*[20] refer to "contributions". The *Convention on Biological Diversity* refers to "innovations". I contend that all these terms are included within the meaning of "knowledge".[21]

8(j), for example, as simply reaffirming the fact that the holders of indigenous and local knowledge might consider applying for patent protection would not constitute any form of special treatment. Of course, rejecting the importation of intellectual property criteria does not in itself solve the problem of how much, or what quality of intellectual property should be protected. Having rejected the criterion of patent law, one is presented immediately with the problem that the potential scope of indigenous and local knowledge is extraordinarily large. The first thing to occur upon rejecting the criterion embraced by intellectual property law is that the previously separate worlds of inventions and public domain collapse into one another. In the absence of the fiction of the individual genius inventor who negotiates the separation between general knowledge and inventions/innovations, the two become indecipherable. What is more, in the dissembling mass of gray, incrementally derived innovations and general knowledge begin to look the same.

[20] *Supra* note 9.

[21] The delegates who advocated most strongly for the inclusion of the terms in the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity* ("INC-CBD") did not have any clearly formed ideas about the different potential legal significance of the terms "knowledge" and "innovations" (interview with Arthur Campeau, Head of the Canadian Delegation to the INC-CBD, then Special Advisor on International Affairs to the Minister of Environment (11 March, 8 & 15 April 1999), and interview with Ulf Svenson, Swedish delegate to the INC-CBD (6 May 1998)).

Sui generis *intellectual property protection.* "Intellectual property-style protection" and "*sui generis* intellectual property protection" are treated as synonyms here. The phrase is occasionally shortened to "*sui generis* protection", or "*sui generis* law". In each instance, the term is meant to denote a legal system of protection for knowledge that shares some characteristics with intellectual property law but which is different in unique ways in order to be able to protect the new subject-matter of indigenous and local peoples' ecological and biological knowledge.

II. Genetic Resource-Related Intellectual Property Rights and Technology

A very brief account of the development of mainstream intellectual property law as it relates to genetic resources will be outlined in this section. This summary will provide a useful context within which to appraise the potential significance of the protection of indigenous knowledge. It will also serve as an introduction to a few anomalous aspects of intellectual property law that might provide openings for, or complement, efforts to create new systems for the protection of indigenous and local knowledge.

In the case of genetic resource management, three factors—technological capacity, market demand, and intellectual property protection—have developed in close association over the course of the last sixty years. During that period, it is possible to concurrently trace the evolution of these three factors through three fundamental shifts in focus: (i) asexual flower breeding; (ii) improved cross-breeding of sexually producing crop plants; and (iii) biotechnical manipulation of plant parts and microbes.

International and domestic intellectual property laws have shifted to accommodate and protect these evolving technologies and markets. For example, the United States *Plant Patent Act*[22] extended protection only to asexually reproducing plants. Similarly, the first international agreement to countenance the subject of plant-related intellectual property law—an amendment to the *Paris Convention for the Protection of Industrial Property*[23] at the London Conference in 1934[24]—extended recognition to breeding efforts concerning asexually reproducing flowers. Subsequent domestic legislation and international conventions extended protection to improved varieties of sexually producing plants. The legal protection in these cases had to be *sui generis* protections because plant varieties could not qualify for generic plant protection since industrial plant breeding activities could not meet the standard patent law criterion of novelty and non-obviousness, and because it was impossible to disclose in writing the nature of plant breeding innovations.[25] New and somewhat more lax criteria for the

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[22] Pub. L. No. 245, § 4015 (1930) (codified as amended at 35 U.S.C. § 161-164 (1988)).

[23] 20 March 1883, 828 U.N.T.S. 107 [hereinafter *Paris Union*].

[24] Rural Advancement Foundation International (RAFI), *Enclosures of the Mind: Intellectual Monopolies* (Ottawa: International Development Research Centre, 1997) at 57.

protection of plant varieties had to be created to protect the plant-breeding industry, market, and technologies. The new requirements were that the new varieties had to be distinct, uniform, and stable.[26]

More recently, advances in biotechnology have made it possible to engineer new plant varieties (and other biologically based "inventions") which can satisfy the novel and non-obvious criterion.[27] Once this technology was firmly established, the Union for the Protection of Plant Varieties ("UPOV") convention was revised in 1991 to allow national governments to provide patent protection for plant varieties.[28] Even if countries should choose not to implement patent laws in favour of new plant varieties, *UPOV 1991* adds the criterion of novelty to the previous three criteria of distinctiveness, uniformity, and stability.[29] One possible future development is that mandatory patent protection of plant varieties will be included in an amendment to article 27(2)(b) of the *TRIPs*[30] agreement, which was scheduled for review in 1999. Finally, with respect to biotechnologies, in response to new-found capacities to create and/or use microorganisms in novel ways, many countries have broadened their intellectual property laws to the effect that they can protect life-forms.

The recent *TRIPs* agreement has dramatically expanded the number of countries that must create legal protection for advanced technologies and their associated markets. Pursuant to *TRIPs*, all countries that are members of the WTO must provide patent protection for pharmaceuticals and microbiological products and processes. They will also have to institute some form of legal protection for plant varieties. While *TRIPs* does not actually require signatories to implement the UPOV conventions to satisfy the "effective *sui generis*" standard of protection for plant varieties, it certainly leads them in that direction. As of mid-1997, the Food and Agriculture Organization ("FAO") Legal Department's practice was to recommend to developing countries (that sought the FAO's advice on technical compliance with *TRIPs*) that they should sign and implement *UPOV 1978*[31] in order to satisfy their obligations pursuant to article 27(3)(b) of *TRIPs*.[32] The author hopes that the legal department's advice to developing

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[25] B. Bai, "Protecting Plant Varieties Under TRIPs and NAFTA: Should Utility Patents be Available for Plants?" (1997) 32 Tex. Int'l L.J. 139 at 143.

[26] *International Convention for the Protection of New Varieties of Plants*, 2 December 1961, revised by (1978) U.S.T. 2703 reprinted in M.A. Leaffer, ed., *International Treaties on Intellectual Property* (Washington: Bureau of National Affairs, 1990) 53 [hereinafter *UPOV 1978*].

[27] In recent years, the requirement to describe the innovation in writing has been modified to allow "deposits" of the new material.

[28] See UPOV, "New Plant Varieties and the Protection of the Rights of Their Breeders: Why an International System of Protection?" online: UPOV <http://www.upov.int/eng/newplant/intsyst.htm> (date accessed: 4 October 1999); *UPOV 1978*, *supra* note 26, as revised at Geneva on 19 March 1991, UPOV Doc. No. DC/91/138 [hereinafter *UPOV 1991*]; and Bai, *supra* note 25 at 143.

[29] *UPOV 1991*, *ibid.*, art. 6.

[30] *Supra* note 1.

[31] *Supra* note 26.

[32] Interview with Dr. Michael Flitner, University of Freiburg (15 December 1997).

countries now includes a broader range of legal mechanisms and standards that they could use to implement their article 27(3)(b) obligations.[33]

The European Patent Directive creates more or less the same obligations as the *TRIPs* agreement does with respect to the protection of biotechnology.[34] While this document excludes plant varieties *per se* from patentability,[35] it extends patent protection to inventions consisting of, or containing, "material containing genetic information and capable of reproducing itself or being reproduced in a biological system" if that invention is new, involves an inventive step, and can be applied industrially.[36] It also allows for patents on essentially non-biological processes[37] for the production of plants and animals, and inventions concerning "plants or animals as long as the technical feasibility of the invention is not confined to a particular plant or animal variety."[38]

There do remain however, a number of instances where intellectual property law lags behind, or refuses to be driven by, advanced technology. For example, the requirement introduced in the *UPOV 1991* revision that new plant varieties must not be "essentially derived" from previous varieties arguably acts counter to the interests of biotechnology-based industries. Traditional industrial plant breeding—as opposed to those industries that use biotechnological techniques—has always involved crossing the entire genetic structure of the ancestor plants to create new varieties. Biotechnology has developed to the point where a single gene from some other variety (or species, even) can be introduced into the otherwise unaltered genetic composition of a plant. Arguably, it is in the interests of the biotechnology industry to have the law recognize each product of such processes as a new plant variety.

The "essential derivation" provision, however, precludes the extension of intellectual property protection to a plant that is created by these techniques if "it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety."[39] Consequently, a

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[33] For an excellent study regarding possible legal mechanisms which fall below *UPOV 1978* and *UPOV 1991* standards, but which might nonetheless satisfy *TRIPs*, *supra* note 1, s. 27(3)(b), see D. Leskien & M. Flitner, *Intellectual Property Rights and Plant Genetic Resources* (Issues in Genetic Resources No. 6, June 1997) (Rome: International Plant Genetic Resources Institute, 1997).

[34] General Secretariat of the Council of the European Union, "Amended Proposal for a Directive of the European Parliament and of the Council on the legal protection of biotechnological inventions: Consolidated text with a view to the common position of the Council" (November 1997) Interinstitutional File Number 95/0350 (COD), Brussels. The "Patent Directive" was finally approved by the European Council of Ministers on May 15, 1998. The European Parliament had previously voted in approval of the document in December 1997.

[35] *Ibid.*, art. 4.

[36] *Ibid.*, arts. 2, 3.

[37] *Ibid.*, art. 2(2) defines "essential biological process concerning plants or animals" as those which consist entirely of natural phenomena such as crossing or selection.

[38] *Ibid.*, arts. 4(1)(b), 4(2).

[39] *UPOV 1991*, *supra* note 28, art. 14(5).

biotechnology company that seeks to introduce a simple genetic sequence for pest resistance in another variety protected by plant breeders' rights will have to seek the permission of the rights holders of the original variety into which they seek to introduce the resistant gene. They cannot simply avoid the issue by claiming to have created an entirely new variety, and thereby avoid liability by claiming the plant breeders' exemption. While this provision has been interpreted by many as raising the bar even further to prevent farmers' varieties from ever obtaining plant breeders' rights, it was actually intended to protect less technologically advanced (but institutional and commercial) plant breeders from the potentially predatory technological capabilities of the biotechnology industry.[40]

Another example of intellectual property law lagging behind the current state of technology was the failure of the United States, Switzerland, and Japan to achieve "maximum" legal protection for plant varieties (*i.e.*, patents) in the negotiation of article 27(3)(b) of the *TRIPs* agreement. They wanted article 27(3)(b) to require all WTO members to offer patent protection for plant and animal varieties, but were forced to compromise with countries that clearly had nothing to gain from the extension of such protection[41] and that therefore refused to condone stronger protection. The requirement that article 27(3)(b) must be reviewed in 1999 was included at the behest of the United States, Japan, and Switzerland. Until recently, it was assumed that these countries would be very aggressive in attempting to get stronger protection in the course of that review.[42] It appears now, however, that very predictable political fall-out from the adoption of such a position has convinced them to relent, at least temporarily. The United States, for example, is taking the position that it would prefer to postpone the review of article 27(3)(b) until after the year 2001 review of the implementation of *TRIPs*.[43]

The most striking departure from the tendency of legal protection to follow (rather than precede) advanced technology is the recognition of "Geographical Indications" in article 3 of the *TRIPs* agreement. Protection by way of geographical indicators is not designed to reward innovation; instead, it rewards producers who follow standardized production techniques associated with a region and product that bears the name of the region. Geographic indicators protect tradition.[44] Not surprisingly, the

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[40] Interview with Barry Greengrass, Vice Secretary-General, UPOV (4 February 1998).

[41] T. Stewart, *The GATT Uruguay Round: A Negotiating History (1986-1992)* (Deventer: Kluwer Law & Taxation Publishers, 1993) at 2294.

[42] Interview with Nuno Pires de Carvalho, Councillor, Intellectual Property and Investment Division, *TRIPs* Council (1 February 1998).

[43] Interview with Nuno Pires de Carvahlo, Senior Legal Officer, World Intellectual Property Organization (3 November 1999).

[44] It is worth noting that trade-marks share this advantage with geographic indicators. I have chosen not to engage in an already well-rehearsed discussion of the utility of trade-marks as a means to protect indigenous knowledge at this point. For a thorough review of the subject, see D. Downes, "Using Intellectual Property as a Tool to Protect Traditional Knowledge: Recommendations for Next Steps"

support of the United States for these provisions could only be secured in return for Europe's making concessions with respect to agricultural subsidies in other, simultaneous *General Agreement on Tariffs and Trade*[45] negotiations.[46] These provisions have been subject to a very controversial review in the *TRIPs* Council for the last three years,[47] and subject to considerable pressure from parties that are hostile to the notion of intellectual property rights based on geography and tradition as opposed to more universal, technologically-oriented criteria. That said, a number of countries are lobbying to have the highest level of protection associated with geographical indicators—which are currently only available for wine and spirits—extended to a much wider range of goods such as yogurt, rice, fruits, tea and so on.[48]

These exceptions *do* constitute examples of intellectual property law "refraining" from embracing the most advanced technological options. On the other hand, they are relatively minor in comparison to the main thrust of intellectual property law's positive relationship with advanced technology. These exceptions will be considered again in the Conclusion, below, in the context of how they might be combined with some of the more positive international legal developments concerning indigenous and local knowledge and innovation.

III. Growing Recognition of Informal Innovation in International Law

While legal rights in plant genetic resources were being strengthened through the UPOV conventions, *TRIPs*, and the European Patent Directive, various issues with respect to the know-how and practices of farmers and traditional indigenous and local communities were being developed in international labour, human rights, and environmental agreements. While these two strands of international law were being developed in relative isolation from one another for quite some time, they were finally forced together, in a relatively unpredictable manner, in the negotiations that led up to the signing of the *Convention on Biological Diversity* in 1992.[49]

(Convention on Biological Diversity Workshop on Traditional Knowledge, Center for International Environmental Law, Washington, D.C., 1997) [unpublished].

[45] 30 October 1947, 55 U.N.T.S. 187, Can. T.S. 1947 No. 27 [hereinafter *GATT*].

[46] Carvalho, *supra* note 42.

[47] *Ibid.* See also *TRIPs*, *supra* note 1, art. 24(2).

[48] See "Extension of the Additional Protection for Geographical Indications to Other Products" (13 July 1999) Communication from Turkey, WT/GC/W/249; and "Proposals in IPR Issues" (18 February 1999) Communication from India, WT/GC/W/147.

[49] *Supra* note 2. In 1990, the *Ad Hoc* Working Group of Experts on Biological Diversity (the same group that would later metamorphose into the Intergovernmental Negotiating Committee for a Convention on Biological Diversity) determined that some form of recognition of a right for indigenous peoples to benefit from the use of their biological and environmental knowledge was essential to the overall goal of biological diversity conservation: see J. Furtado, *Biological Diverstiy: Global Conservation Needs and Costs*, 12 June 1990, UNEP/Bio.Div.3/Inf.1. Prior to this explicit linking of indigenous knowledge and global environmental benefits, intellectual property issues and environmental is-

In the sections that follow, the evolution of the treatment of "indigenous", "tribal", "local", and "farmer" innovations in international law will be analyzed. The year 1957 is perhaps the most appropriate date from which to start this analysis because that is the year in which the *Convention Concerning the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries*,[50] also known as ILO 107, was adopted by the International Labour Organization. As shall be seen in the analysis below, ILO 107 explicitly denigrates indigenous culture, education, and practices. Although the agreement does not include the term "indigenous knowledge or innovations," it is clearly hostile to the possibility of their positive evaluation.[51] Thirty-seven years later, the *Convention to Combat Desertification*[52] has the strongest set of provisions to date concerning local innovations (though the word "indigenous" is not included).

In between, the most significant developments in international law regarding the treatment of indigenous and local knowledge include the United Nations Educational, Scientific and Cultural Organization ("UNESCO")-WIPO *Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions*,[53] ILO 169,[54] the five documents (including the *Convention on Biolgical Diversity*) approved at the 1992 UNCED,[55] and ongoing negotia-

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sues were not treated together in the same international legal agreement. Variations on what language should be included in the *Convention on Biological Diversity vis-à-vis* indigenous knowledge was the subject of protracted debate throughout the subsequent negotiating sessions, with many countries—Brazil being perhaps the most vociferous—resisting the inclusion of the "indigenous and local knowledge" altogether: Campeau, *supra* note 21.

[50] 26 June 1957, 328 U.N.T.S. 247 [hereinafter ILO 107].

[51] An alternative and much more recent point of departure is 1972: the year of the United Nations Conference on the Human Environment ("UNCHE"). The UNCHE is significant because it was the historical precursor to the 1992 United Nations Conference on Environment and Development ("UNCED") (at which time the immensely significant *Convention on Biological Diversity* was opened for signature) and because neither of the two documents approved by the 113 countries that participated in the 1972 UNCHE—the *Stockholm Declaration on the Human Environment*, online: International Treaties from Cornell <http://sovereignty.net/un-treaties/STOCKHOLM-DECL.txt> (date accessed: 4 October 1999) and the *Action Plan for the Human Environment*, online: International Treaties from Cornell <http://sovereignty.net/un-treaties/STOCKHOLM-PLAN.txt> (date accessed: 4 October 1999)—include particularly serious treatment of indigenous, farmer, local, and/or traditional innovations.

[52] *Supra* note 7.

[53] Reproduced in D. Posey, *Traditional Resource Rights: International Instruments for Protection and Compensation for Indigenous Peoples and Local Communities* (Gland, Switz.: International Union for the Conservation of Nature and Natural Resources, 1996) at 204 [hereinafter Model Provisions]. The relevant document was published (without a document number) in 1985 after the Model Provisions were adopted at the meeting of the Committee of Governmental Experts on the Intellectual Property Aspects of the Protection of Expressions of Folklore (Geneva, 28 June to 2 July 1982) convened by UNESCO and WIPO.

[54] *Supra* note 3.

[55] *Supra* note 51.

tions regarding farmers' rights in the Commission on Genetic Resources for Food and Agriculture. These agreements shall be analyzed in chronological order.

A. Disrespect for Indigenous Customs in ILO 107

ILO 107[56] sought to raise the standard of living of indigenous and tribal people it "protected" by encouraging their assimilation into the dominant national cultures in which they were geographicaly located. In the context of vocational training, employment, and education, the agreement speaks of the need to raise indigenous and tribal peoples' "stage of cultural development,"[57] "improve their artistic values and particular modes of cultural expression,"[58] and reach a higher "stage" of "social, economic, and cultural integration in the national community."[59] In one provision, the agreement considers the possibility of replacing the "values and institutions of the said populations" with "appropriate substitutes."[60]

Obviously, the entire thrust of this agreement militates against the possibility of respecting, valuing, protecting, and promoting indigenous and tribal peoples' knowledge and innovations.[61] ILO 107 is based on the implicit idea that indigenous and tribal cultures, practices, and education are backward and primitive. The agreement aims to "protect" indigenous and local people through replacing their collective systems of knowledge production and cultural survival with individualist orientations.[62] Widespread recognition of the prejudicial nature of this document eventually led to its revision. The revision, which culminated in 1989 in ILO 169, shall be analyzed below.

B. Expressions of Folklore in the Model Provisions

Agreements regarding the protection of "folklore" were forged between African states in the mid 1960s.[63] Similar efforts to create international, binding agreements on the protection of folklore have been made by the United Nations since 1972, when the Bolivian government, furious over Simon and Garfunkel's release of "El Condor Pas", a copy of a traditional Andean folk song, insisted in a letter to the Director Gen-

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[56] *Supra* note 50.

[57] *Ibid.*, art. 17.

[58] *Ibid.*, art. 18.

[59] *Ibid.*, art. 22.

[60] *Ibid.*, art. 4(b).

[61] The document is not entirely contrary to current conceptions of indigenous peoples' rights. In ILO 107, *ibid.*, art. 11, for example, the agreement states that the "right of ownership, collective or individual, [of] the members of the populations concerned over the lands which these populations traditionally occupy shall be recognized." Subsequent provisions offer protection against forced displacement and expropriation without appropriate compensation.

[62] The primary objective of the assimilation-oriented prescriptions in the agreement are to foster *individual* dignity and advance *individual* usefulness and initiative.

[63] *Tunis Model Law on Copyright for Developing Countries* (1976), reproduced in (1976) 12 Copyright: Monthly Rev. World Intell. Prop. Org. 165.

eral of UNESCO that action must be taken at the international level to redress similar situations in the future.[64] In 1983, UNESCO and WIPO together issued model provisions for the protection of folklore[65] which were to serve as a model upon which countries could base their domestic legislation. Subsequent attempts to have the Model Provisions elevated to the status of an international convention failed,[66] though they officially continue to exist as recommendations for member states.[67] Despite failing to create an international instrument regulating folklore protection, UNESCO remains, at least rhetorically, dedicated to the advancement of indigenous communities' intellectual property rights.[68]

Modeled as they are upon copyright law analogues, the Model Provisions address control of "expressions" of folklore (as opposed to ideas, which cannot be protected by copyright). It has been suggested, however, that indigenous, local, and farmers' informal innovations involving plants could be construed as expressions of folklore.[69] While this may be true, pursuing such an argument based on the 1984 text of the model laws is entirely academic. The Model Provisions do not constitute a legally binding instrument. In fact, efforts to make them into an international legally binding document failed.

What is most interesting about the Model Provisions for the purposes of this study is: (i) they represent an early attempt to promote the idea of communal, intergenerationally-derived intellectual contributions attracting some form of intellectual property protection; and (ii) they failed to gain the support of national governments for this objective. While the Model Provisions were essentially abandoned for the last twelve years, they may be reinvigorated by the Global Issues in Intellectual Property Unit of WIPO. The Model Provisions will be revisited below.

C. *Indigenous and Tribal Practices in ILO 169*

As stated above, ILO 107's assimilationist and patronizing approach eventually became an embarrassment to ILO members, and members voted to revise the document. Thirty-two years later, the organization adopted ILO 169.[70] ILO 169 represents

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[64] Interview with Marc Denhez, Barrister and Solicitor, UNESCO Consultant (7 April 1998).

[65] *Supra* note 53.

[66] M. Denhez, "Appendix A: International Efforts to Regulate Fakelore" in M. Denhez & A. Noonan, *Native Arts, Crafts and Fakelore: Report for the Royal Commission on Aboriginal People*, March 1994 [unpublished].

[67] *Ibid.*

[68] See *Report of the Workshop*, *supra* note 17 at para. 67 where the Secretariat reports that at the *Convention on Biological Diversity* Workshop of Traditional Knowledge and Biological Diversity at Madrid (November 1997), the representative from UNESCO reported to the plenary session that the protection of the intellectual property rights of indigenous people and local communities was at the heart of UNESCO's mandate and field of competence.

[69] "Kari-Oca", *supra* note 17.

[70] *Supra* note 3.

a significant step forward, or at least away, from ILO 107. The two most obvious improvements forged by the agreement are: (i) the recognition that indigenous and tribal customs should survive; and (ii) that indigenous and tribal peoples should be able to participate in planning projects that affect them.[71]

Article 23 of ILO 169 states that "rural and community based industries ... and traditional activities ... shall be recognized as important factors in [indigenous and tribal peoples'] economic self-reliance and development," and adds that "Governments shall ... whenever appropriate, ensure that these activities are strengthened and promoted." Articles 23 and 27 both refer to "traditional technologies", but do so in a relatively passive context which only implicitly recognizes the value of that technology. Article 13 sets out that governments shall respect the "collective aspect" of indigenous and tribal peoples' relationship to their lands. Finally, the Preamble calls attention to the "distinctive contributions of indigenous and tribal peoples to ... ecological harmony."

Considered together, these provisions exhibit a nascent appreciation for the value of indigenous and local knowledge. Of course, ILO 169 does not refer to knowledge *per se*; its references are restricted to what is argued here to be sub-species of indigenous knowledge, that is, indigenous and tribal "practices" and "technologies", and are restricted in the Preamble (where it carries the least legal authority) to "contributions".[72] With the exception of the Preamble, ILO 169 treats the benefits associated with indigenous and tribal practices and technologies as being of significance only to the indigenous and tribal communities themselves, and not to outside communities. This treatment of "indigenous and tribal practices" is very different from the treatment of "indigenous and local knowledge, innovations and practices" in the *Convention on Biological Diversity*, wherein the latter are recognized as relevant to the conservation and sustainable use of biological diversity, which in itself is recognized as having "intrinsic value".[73]

Although ILO 169 is frequently referred to in the preambles of United Nations statements and resolutions, it does not appear to have much active significance in ongoing negotiations regarding indigenous knowledge. For example, there were no International Labour Organization representatives at the *Convention on Biological Diversity* Workshop of Traditional Knowledge and Biological Diversity at Madrid in November 1997[74] or at the Fourth Conference of the Parties to the *Convention on Biological Diversity* at Bratislava in May 1998. This may be due in part to the relative

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[71] Tomei & Swepston, *supra* note 14 at 6.

[72] See definition of "indigenous and local knowledge" in Part I, above.

[73] *Supra* note 2. The *Convention on Biological Diversity* is the subject of extensive review in Part III.*E*.1, below.

[74] *Report of the Workshop*, *supra* note 17 at para. 18.

lack of international support for the document in the first place; as of September 1996, only ten countries had ratified it.[75]

There is also a lack of enthusiasm for the agreement on the part of indigenous peoples. Indigenous peoples are critical of the agreement for two reasons: (i) the disclaimer in article 1(3) that the use of the word "peoples" in the document should not be construed as supporting movements for self-determination in international law;[76] and (ii) a general lack of support for substantive territorial rights. While there is nothing explicit in the agreement regarding conventional intellectual property-style treatment of indigenous and tribal knowledge and innovations, ILO 169 eradicates the previous international law embodied in ILO 107 that otherwise militated against such future developments.

D. The Informal Innovation of Farmers

The Commission on Genetic Resources for Food and Agriculture ("CGRFA") was created by and within the FAO in 1983. It adopted the *International Undertaking* in the same year.[77] Originally, the *International Undertaking* (which is not binding on its signatories) adopted a free exchange formula concerning plant genetic resources for food and agriculture, guided by the rationale that such resources were the common heritage of mankind.[78] Nothing in the original *International Undertaking* document explicitly recognizes the contributions of traditional farmers *qua* breeders.[79]

In the first meeting of the CGRFA in 1985, however, developed countries insisted upon exempting plant breeders' rights-protected plant varieties from the application of the common-heritage principle, thereby harmonizing the *International Undertaking* with *UPOV 1978*.[80] In reaction to this development, developing countries—spurned into action by non-governmental organizations in the corridors of the Roman FAO building during the 1985 CGRFA meetings—angrily demanded the recognition of farmers' rights as a balance against the recognition of plant-breeders' rights.[81]

When the notion of "farmers' rights" was originally introduced—by Mexico, supported by Libya, and vehemently objected to by the Netherlands—in the CGRFA

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[75] *Knowledge, Innovations and Practices of Indigenous and Local Communities: Implementation of Article 8(j)*, 18 September 1996, UNEP/CBD/COP/3/19 at para. 19 [hereinafter *Knowledge, Innovations and Practices*].

[76] International Indian Treaty Council, *International Indian Treaty Council Position on the Draft of the Interamerican Declaration on the Rights of Indigenous Peoples*, online: International Indian Treaty Council <http://www.treatycouncil.org > (date accessed: 4 October 1999).

[77] *Supra* note 9, art. 1.

[78] FAO, *The State of the World's Plant Genetic Resources for Food and Agriculture* (Rome: FAO, 1998) at 2.

[79] Interview with Pat Mooney, Executive Director, Rural Advancement Foundation International (5 April 1998).

[80] *Supra* note 26.

[81] Mooney, *supra* note 79.

meetings, no one had a clear idea of what the term actually meant. After a three-year period and protracted negotiations, a very general definition of "farmers' rights" was recommended by the CGRFA to the FAO Assembly in 1989. Accompanying that resolution was another resolution which adopted the exclusion of plant-breeders' rights-protected plant varieties from the common heritage principle.[82] In the text adopted by the FAO, farmers' rights were defined as

> rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly those in the centers of origin/diversity. These rights are vested in the International Community, as trustee for present and future generations of farmers, for the purpose of ensuring full benefits to farmers, and supporting the continuation of their contribution, as well as the attainment of the overall purpose of the International Undertaking.[83]

A subsequent resolution, passed in 1991, stated: "Farmers' [r]ights *will* be implemented through an international fund on plant genetic resource which will support plant genetic conservation and utilization programmes, particularly, but not exclusively, in the developing countries."[84]

In 1989, all parties to the *International Undertaking* decided to embark upon a revision of the convention in order to address the rapidly changing policy environment concerning the international exchange of germ plasm and, after 1992, to bring the convention in conformity with the *Convention on Biological Diversity*. It was also decided that the revised *International Undertaking* should be a legally binding document, either as a protocol adopted pursuant to the *Convention on Biological Diversity* or as a "stand alone" treaty administered by the FAO.[85] In the context of these negotiations; the issue of farmers' rights was reopened.

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[82] Res. 4/89, extracted from the 25th Sess. of the FAO Conference, Rome, 11-29 November 1989, Annex 1, art. 1.

[83] Res. 5/89, extracted from the 25th Sess. of the FAO Conference, Rome, 11-29 November 1989, Annex 2. The text also states that the Conference endorses the concept of "farmers' rights" in order to:

(a) ensure that the need for conservation is globally recognized and that sufficient funds for these purposes will be available;

(b) assist farmers and farming communities, in all regions of the world, but especially in the areas of origin/diversity of plant genetic resources, in the protection and conservation of their plant genetic resources, and of the natural biosphere;

(c) allow farmers, their communities, and countries in all regions, to participate fully in the benefits derived, at present and in the future, from the improved use of plant genetic resources, through plant breeding and other scientific methods.

[84] Res. 3/91, extracted from the 26th Sess. of the FAO Conference, Rome, 9-12 November 1991, Annex 3 [emphasis added].

[85] These options continue to be discussed: see *e.g.* CGRFA, *Revision of the International Undertaking on Plant Genetic Resources: Legal and Policy Options*, CGRFA-8/99/9, 8th Reg. Sess. of the FAO Conference, Rome, 19-23 April 1999 [hereinafter *Legal and Policy Options*].

These negotiations have been characterized by developing countries attempting to give the term substantive content (and increased significance), and developed countries trying to minimize the content of the term, or eradicate it entirely. G-77 countries have argued that the revised *International Undertaking* should include the following obligations on signatories:

> Protect, promote and compensate the use of knowledge, innovation and practices of farmers relevant for the conservation and sustainable use of plant genetic resources for food and agriculture and promote their wider application with the consent and involvement of holders of such knowledge and innovations, and promote the equitable sharing of benefits from the utilization of plant genetic resources, knowledge, innovations and practices. ...
>
> Protect and promote the collective rights of farmers with respect to their innovations, knowledge and culturally diverse systems. ...
>
> Establish national and international sui generis systems pertaining to the fair and equitable sharing of benefits arising out of the utilization of plant genetic resources. ...
>
> Establish an international fund to support sustainable use of genetic resources, traditional farmers' knowledge and equitable benefit sharing. ...
>
> Ensure that the prior informed consent of farmers and local communities is obtained before the collection of plant genetic resources is undertaken and require the disclosure of the origin of genetic resources used in the development of commercial varieties. ...
>
> Modify intellectual property rights systems, land tenure and seed laws to ensure harmony with the provisions stated above.[86]

It is extremely unlikely that all of these provisions will eventually be included in the revised *International Undertaking*; they are not realistic in the context of the ongoing negotiations. Instead, these provisions represent a "stonewalling" technique through which the G-77 can express its frustration with what it feels is intransigence on the part of developed countries. For their part, the developed countries also engage in exaggerated posturing; one often hears rumours in the FAO's corridors that developed countries are considering forming their own closed club for the purposes of germ plasm exchange, and leaving the developing countries out of the deal altogether. This position is based on the idea that the APEC countries can now satisfy their current and future needs for agricultural germ plasm out of the stock they are already using, and from the *ex situ gene* banks that are situated within their borders. In fact, industrialized countries are no more likely to follow this course of action than the G-77 is to insist on the entire list of provisions set out above.

In April 1999, the CGRFA revisited the revisions of the *International Undertaking*. Leading up to the meeting, one theory that had been gaining acceptance was that Southern governments were gradually moving toward dropping their push for sub-

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[86] *Ibid.*

stantively meaningful provisions to be included in the *International Undertaking* under the rubric of farmers' rights in return for a general commitment to the creation of an international fund in support of *in situ* conservation in the South. The Chairman's negotiating text (the base document upon which the week's negotiations started), however, included fairly strong language regarding farmers' rights. Not surprisingly, the strongest language was quickly taken out of the text.[87] However, the negotiations regarding farmers' rights still did not lose all of its momentum. At 10:30 p.m. of the third day of the meeting, the "contact group" that had been assigned the task of considering farmers' rights agreed to the following formulation:

> The Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centers of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world. The parties agree that the responsibility for realizing farmers' rights, as they relate to Plant Genetic Resources for Food and Agriculture, rests with national governments. In accordance with their needs an priorities, each Party should, as appropriate and subject to its national legislation, take measures to protect and promote Farmers' Rights, including:
>
> (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
>
> (b) the right to equitably participate in benefit-sharing arising from the utilization of plant genetic resources for food and agriculture;
>
> (c) their right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
>
> Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed-propagating material, subject to national law and as appropriate.[88]

The overall effect is that farmers' rights have been demoted from being an international legal principle (with admittedly undecided normative value) to a principle that exists solely at the discretion of national governments.

In spite of this demotion, it is interesting to note that the language in paragraphs (a), (b), and (c) is relatively strong in terms of possible implementation. The text urges state parties to consider "protecting" traditional knowledge, and farmers should share in the benefits of the use of their genetic resources (which are the embodiment of their traditional knowledge). This language is very similar to that which is included in article 8(j) of the *Convention on Biological Diversity* and its introduction at this stage of

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[87] CGRFA, *Composite Draft Text on the International Undertaking on Plant Genetic Resources Incorporating the Chariman's Elements*, CGRFA-8/99/13 Annex, 8th Reg. Sess. of the FAO Conference, Rome, 19-23 April 1999.

[88] *Ibid.*

the CGRFA meetings can no doubt be attributed to growing prominence of the *Convention on Biological Diversity*. While the new text is definitely a step back from a global system to advance farmers' rights, it includes stronger language than ever that farmers' innovations deserve compensation. It also includes language that is unprecedented in the history of the *International Undertaking* regarding farmers rights to political participation as a function of farmers rights. Overall, while undermining any international content regarding farmers' rights, the text advances (rhetorically at least; there is no real legal force to agreed language) national schemes to implement these rights.

While periodic meetings of the CGRFA to revise the *International Undertaking* continued, the issue of farmers' contributions to plant breeding was addressed by an assembly of approximately one hundred and fifty countries at the Fourth International Technical Conference on Plant Genetic Resources at Leipzig, Germany in 1996.[89] The conference responded to a felt need—both by parties engaged in the revised *International Undertaking* negotiations and by the Conference of the Parties to the *Convention on Biological Diversity*—for extended analysis of technical issues related to the conservation and sustainable use of plant genetic resources for food and agriculture.[90] By the time it was completed, however, the Conference had addressed—more than anyone had anticipated it would—a number of related policy issues, including the equitable sharing of benefits derived from the use of "traditional knowledge, innovations and practices relevant to the conservation of [plant genetic resources for food and agriculture] and their sustainable use."[91] The Conference parties unanimously adopted a document prepared by the Secretariat, and revised and negotiated by the parties entitled the *Global Plan of Action*.[92]

The *Global Plan of Action* is explicit in its recognition of the value of farmers' informal innovations and its reaffirmation of the principle of farmers' rights. It states that many food crops have "been consciously selected and improved by farmers since the origins of agriculture" and have "continued to be developed and improved by farmers without interruption [since ancient times]."[93] Furthermore, one of the stated primary objectives of the *Global Plan of Action* is to support and enhance "traditional" on-farm systems of plant genetic resources for food and agriculture conserva-

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[89] FAO, *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture and the Leipzig Declaration, Adopted by the International Technical Conference on Plant Genetic Resources* (Rome: FAO, 1996) [hereinafter *Global Plan of Action*].

[90] *Ibid.* at para. 4 states that "[t]he Conference of the Parties to the [*Convention on Biological Diversity*] at its second session in 1995 declared its support for the development of a Plan 'for Food and Agriculture' through the preparatory process of the Fourth International Technical Conference on Plant Genetic Resources."

[91] *Ibid.* at para. 9; and Mooney, *supra* note 79.

[92] *Supra* note 89.

[93] *Ibid.* at para. 57.

tion and development, and to forge complimentary links between on-farm and institutional plant-breeding efforts.

The *Global Plan of Action* is less clear, however, about what policy options individual countries and international organizations should pursue in furtherance of these objectives. The *Global Plan of Action* does offer a few *sui generis* forms of protection for states to consider by way of national legislation, for example, legislative measures to allow distribution and commercialization of land races/farmers' varieties such as a "niche variety registration system" for traditional varieties.[94] The thrust of most of the recommendations, however, is more administrative in nature; encouraging national governments and multilateral institutions to designate resources to support and investigate the efficacy of on-farm conservation and improvement efforts, and to forge links between formal-sector breeders and farmers. The *Global Plan of Action* continues to command considerable attention at the CGRFA meetings, and in the overall administrative activities of the FAO.

On the international level, many still feel that the most likely result of the ongoing negotiations regarding farmers' rights in the *International Undertaking* will be the realization of an international fund of money (contributed mostly by Northern governments and industries) for *in situ* conservation efforts for Southern farmers. The *Global Plan of Action* would be a source of direction regarding the kinds of activities the fund should support. While this version of farmers' rights would result in additional financial support for on-farm methods of plant genetic resources for food and agriculture preservation and improvement, it would not provide individual farmers and/or farming communities with property-style control over their knowledge and/or innovations. Such a result would therefore be disappointing to anyone who seriously hoped to see farmers' rights expressed (at least in part) in the form of internationally defined intellectual property rights designed to protect farmers' varieties.

On the other hand, the new language negotiated at the last CGRFA meeting does advance the idea that *sui generis* intellectual property rights for farmers could be realized at the domestic level. Of course, the new text on farmers' rights is not final; it could still be radically changed, or eradicated altogether, by the time all of the state parties finally agree upon the text of the revised *International Undertaking*.

E. Indigenous and Local Informal Innovations

1. The *Convention on Biological Diversity*

Article 8(j) of the *Convention on Biological Diversity* requires that each party promote the wider application of "knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity." In addition, article 8(j) states that govern-

[94] *Ibid.* at paras. 203, 212.

ments will "encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices."[95] Of course, the force of both of these obligations is undermined by the conditions, "as far as possible and as appropriate," and "subject to ... national legislation."[96] Article 10(c), subject to the same qualifiers, requires contracting parties to "[p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with the conservation or sustainable use requirements."[97] The first preambular paragraph recognizes the "intrinsic value of biological diversity."

The meaning of these articles—and, more specifically, what governments are required to implement by way of national legislation in furtherance of these provisions—is subject to considerable ongoing controversy. The negotiators who eventually pushed hardest for the inclusion of text relating to indigenous knowledge and innovations in the *Convention on Biological Diversity* were not certain at the time what the long-term significance of its inclusion would be.[98] Now, seven years after the Convention was signed, the Secretariat of the Convention recognizes that "best practices with regard to all aspects of the implementation of article 8(j)" are still far from clear.[99]

Based on a simple, plain meaning interpretation of the text, one thing is certain: the Preamble and articles 8(j) and 10(c) of the *Convention on Biological Diversity* represent a significant step forward from ILO 169 in the treatment of informal innovations. First, the Convention refers to indigenous and local "knowledge" and "innovations"; terms which connote a much higher level of intellectual contribution and sophistication than what is implied in ILO 169's "traditional activities" and "technolo-

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[95] Art. 8 of the *Convention on Biological Diversity*, *supra* note 2, is entitled "In-Situ Conservation". The full text of article 8(j) is as follows:

> 8. Each Contracting party shall, as far as possible and as appropriate:
>
> ...
>
> (j) Subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

[96] *Ibid.*

[97] Two other articles of the *Convention on Biological Diversity* also mention "indigenous and local knowledge": art. 17(2) under the rubric of "Exchange of Information", and art. 18(4) under the rubric of "Technical and Scientific Cooperation." The twelfth paragraph of the Preamble recognizes the close dependence of indigenous and local people living traditional lifestyles on biological resources and the desirability of sharing the benefits arising from the use of traditional knowledge, innovations, and practices relevant to the conservation of biological diversity.

[98] Campeau, *supra* note 21.

[99] Executive Secretary, Secretariat of the Convention on Biological Diversity, *Implementation of Article 8(j) and Related Provisions*, 2 February 1998, UNEP/CBD/COP/4/10 at para. 35.

gies". Second, the Convention recognizes that indigenous and local knowledge and innovations are valuable outside the indigenous and local communities from which they originate, and that such knowledge is therefore open to be exploited by actors outside these communities. Third, the Convention links the notion of outside exploitation of indigenous and local technologies to the necessity of returning some of the benefits that arise from that exploitation to the indigenous and local communities from which the knowledge and innovations originated.

Equally certain (from a plain reading of the text), however, is the fact that the *Convention on Biological Diversity* does not explicitly create a *right* of control over their knowledge and innovations that vests directly in indigenous or local innovators. Beyond recognizing the value of indigenous and local knowledge, and making very general prescriptions about the need to "promote" them, the Convention is unclear about *how* to promote them. Consequently, exactly what policies and laws governments must implement to give national effect to these obligations is unclear. The various implementation schemes that are most commonly discussed and drafted can be subdivided into three basic camps, which shall be referred to as: (i) enhanced policy participation; (ii) intellectual property style protections; and (iii) territorial rights.

As the name suggests, the policy participation camp posits that the *Convention on Biological Diversity* creates a general obligation to ensure the participation of indigenous peoples in those aspects of policy-making and resource management which (i) affect indigenous peoples, and/or (ii) where indigenous knowledge and innovations might be relevant to the "conservation and sustainable use of biological diversity" outside their own communities. Governments would similarly be under an obligation to share the benefits that are derived from the use of this knowledge, though it is possible that there would not be any identifiable benefits that flow from participating in policy-making *per se*.

The intellectual property-style protection camp purports that indigenous and local communities are *entitled* to benefits from, and have *rights* of control over, the use of their knowledge and innovations. Suggestions regarding exactly what form these rights and controls should take vary.

The third camp propounding territorial rights of indigenous and local communities argues that maintenance and wider application of indigenous and local knowledge is impossible without attendant land rights and rights to self-determination. This position finds some logical (if not strictly legal) support in ILO 169, which recognizes the "collective aspects" of the relationship between indigenous and tribal peoples' "cultural and spiritual values" and their "lands and territories".[100]

Most of the pressure for the territorial rights position originates from indigenous and local people themselves. There is very little evidence that governments engaged in the negotiation or interpretation of the *Convention on Biological Diversity* have

[100] ILO 169, *supra* note 3, art. 13.

ever intended for the recognition of indigenous and local knowledge to reinforce indigenous and local claims for restoration of their ancestral territories. References are made in some of the United Nations Conference on Environment and Development ("UNCED") preparatory conference materials to the possibility of local and indigenous communities having a right to "utilization and protection of their habitats on a sustainable basis."[101] However, it is not reasonable to interpret such generic statements as support for something as controversial as a right to land. The territorial rights position is almost entirely driven by indigenous and local peoples, not by parties to the agreement. Further analysis of the territorial rights position is reserved to Part IV, below.

Most of the tension that existed both in the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity* and in subsequent efforts by the parties to interpret their implementation obligations and options has been between the policy participation and intellectual property-style protection camps. There is evidence of this tension from the moment the terms "indigenous and local knowledge and innovations" were first introduced into the negotiation of both the *Ad Hoc* Working Group of Experts on Biological Diversity, and later the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity* and the Preparatory Conferences for the UNCED.

For example, the two motives on the part of the Canadian and Swedish delegates who eventually took the lead advocating the inclusion of indigenous and local knowledge and innovations into the Intergovernmental Negotiating Committee rounds are characterized by this tension between the two camps. One of the motives was to push national governments into including indigenous and local representatives in domestic policy discussions regarding their own development and the environment. The second motive, however, was to "send a warning shot over the bow" of the Uruguay round *GATT* negotiations concerning intellectual property which were taking place at the same time.[102] While the delegates to the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity* did not have the expertise in intellectual property law that the more recent delegations enjoy,[103] they definitely appreciated at the time that the inclusion of indigenous knowledge and innovations would have implications with respect to intellectual property law, even though they were not sure exactly what these would be.[104]

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[101] See *e.g.* UNCED Preparatory Committee, *Preparations for the United Nations Conference on Environment and Development on the Basis of General Assembly Resolution 44/228 and Taking into Account Other Relevant General Assembly Resolutions*, 17 December 1991, A/CONF.151/PC/1000/Add.21 at para. 93(h) [hereinafter *Preparations 1*], and 19 December 1991, A/CONF.151/PC/104 at para. 59 [hereinafter *Preparations 2*].

[102] Campeau, *supra* note 21.

[103] For example, the Canadian delegation to the Madrid Workshop in 1997 and to the Bratislava Fourth Conference of the Parties in 1998 included an intellectual property lawyer from Industry Canada.

[104] According to Arthur Campeau, *supra* note 21, neither he nor his fellow delegates (both the other Canadians and the Swedish delegates with whom he worked most closely) who pushed for the inclu-

Just as in the case of the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity*, the reports of the Secretary General of the Preparatory Conferences to UNCED[105] reflect an inability of the government delegates to agree upon the ambit of the potential significance of the meaning of "indigenous and

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sion of "indigenous and local knowledge" in the *Convention on Biological Diversity* had clear ideas about the kinds of national laws that would eventually be required to realize the objectives of including the term in the agreement in the first place. Their primary objective was to ensure that indigenous and local peoples would be included in future national and international processes wherein such mechanisms would be defined. Campeau was motivated by the combination of a sense of debt to indigenous and local peoples—based on the value of their contributions to agricultural, medical, and environmental knowledge—a sense of urgency—based on the global depletion of biological and cultural diversity—and the potential remedial benefits of raising the profile of indigenous and local resource management approaches.

It is interesting to note that much more strongly formulated obligations with respect to both participatory and intellectual property-style approaches to indigenous and local knowledge were at one time included in the text, but ultimately abandoned. For example, one "element" which the *Ad Hoc* Working Group considered including in the text of the *Convention on Biological Diversity* was the "*right* of indigenous populations *to participate* in the use, management and conservation of natural resources pertaining to their lands," and the "maintenance and use of local knowledge about biological diversity *through necessary support and funding*" (United Nations Environment Programme ("UNEP"), *Report of the Ad Hoc Working Group on the Work of its Third Session in Preparation for a Legal Instrument on Biological Diversity on the Planet*, 13 August 1990, 3rd Sess., UNEP/Bio.Div.3/12 at 18 [emphasis added]).

A provision that was dropped which would have had a significant impact regarding the necessity of creating domestic intellectual property protections was as follows: "Practices and innovations developed in the course of traditional life and by [indigenous people, communities, and populations] which contribute to the wise and sustainable use of biological resources and conservation of biological diversity should be recognised and *rewarded*" (UNEP, *Ad Hoc Working Group of Legal and Technical Experts on Biological Diversity: Draft Convention on Biological Diversity*, 2nd Sess., UNEP/Bio.Div/WG.2/2/2/2 at 20 [emphasis added]). The same text also includes the principle of "recognition and *reward of informal innovation* by local/indigenous people ('farmers' rights')" (*ibid.* at 14 [emphasis added]).

[105] Reliance on the negotiating history of the Preparatory Conferences to the UNCED for interpretation of "indigenous and local knowledge" is legitimate in as much as there was considerable overlap between both the subject matter and negotiating personnel in the Preparatory Conferences and the Intergovernmental Negotiating Committee rounds for the *Convention on Biological Diversity*: see *e.g. Chairman's Summary and Proposal for Action*, 30 August 1991, A/CONF.151/WG.I/L.28/REV.1 at para. 5:

> The obvious links with the negotiating process for a convention on biological diversity were underlined, with special emphasis on the care needed to avoid duplication or pre-empting the outcome of the negotiations. The Chairman of the Intergovernmental Negotiating Committee for a Convention on Biological Diversity drew attention to the close links already established between the secretariat of the INC for a Convention on Biological Diversity and the UNCED secretariat and indicated his view that the proposals in A/CONF.151/PC/42/Add.4 supported and were complementary to the negotiating process.

local knowledge."[106] The Secretary General raises for discussion time and again different possible rights and privileges or practices that could possibly attend the recognition of the value of indigenous and local knowledge. For example, the Secretary General suggests encouraging indigenous participation in national agricultural and conservationist research, collecting and recovering information on indigenous conservationist practices, and scientific training for indigenous peoples.[107] He also suggests, in the alternative, that recognition of indigenous knowledge and innovations might imply that indigenous people have an attendant "right to utilization and protection of their habitats on a sustainable basis,"[108] that "international and national legal instruments ... will protect indigenous intellectual property rights as well as customary and traditional legal and administrative systems,"[109] and that "indigenous peoples should be rewarded in some ways for innovation."[110] Similarly, certain governments made submissions to the Conference wherein they expressed their preference for the "protection" of indigenous knowledge[111] and for intellectual property rights for indigenous knowledge.[112]

This tension regarding the implementational obligations and possibilities pursuant to the *Convention on Biological Diversity* with respect to indigenous and local knowledge has not been resolved in the seven years since the Rio Conference.[113] Discussions, submissions, interventions, and secretariat papers across the entire ambit of *Convention on Biological Diversity* Committees, Working Groups, and Conferences of the Parties are all marked by an inability to define the limit of rights and entitlements that should flow to indigenous and local communities as a result of the recognition of the value of indigenous and local knowledge.

Two decisions adopted by the third Conference of the Parties to the *Convention on Biological Diversity* illustrate the state of indecision about how to implement article 8(j) and related provisions, and their relationship to *sui generis* protection of in-

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[106] It is interesting to note that Canada was the first country to raise the issue of recognizing indigenous and local knowledge in the context of the Intergovernmental Preparatory Conferences to UNCED, wherein the Rio Declaration, Agenda 21, and the Statement on Forest Principles were being negotiated: see "Statement by John Bell, Head of Delegation: Canadian Statement on Environment and Indigenous People" (2nd UNCED Preparatory Conference, Plenary, Geneva, 3 April 1991) [unpublished] [archived with the author]; and "Indigenous People" (2nd Preparatory Conference, Briefing Notes of the Canadian Delegation to the INC-CBD) [unpublished] [archived with the author].

[107] UNEP, *Report of the Secretary General of the Conference: Promoting Sustainable Agriculture and Rural Development*, 18 December 1991, A/CONF.115/PC/100/Add.19 at paras. 27, 56, 60.

[108] *Preparations 1*, *supra* note 101 at para. 93(h); and *Preparations 2*, *supra* note 101 at para. 59.

[109] UNEP Preparatory Committee, *Report of the Secretary General of the Conference: Strengthening the Role of Major Groups*, 17 December 1991, A/CONF.151/PC/100/Add.13 at para. 40.

[110] UNEP Preparatory Committee, *Progress Report of the Secretary General of the Conference: Conservation of Biological Diversity*, 5 February 1991, A/CONF.151/PC/28 at para. 11.

[111] Letter from the representatives of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Surinam, and Venezuela to the Secretary General of the United Nations (19 February 1992) (UNEP Preparatory Committee, 24 February 1992, A/CONF.151/PC/123 at para. 8).

[112] Statement of the delegate from Vanuatu [unpublished] [archived with the author].

[113] 5 June 1992, UN Doc. UNED/Bio.Div/N7-INC.5/4 (1992).

digenous and local knowledge. In Decision III/14, "Implementation of Article 8(j)", the Conference of the Parties invites member states to submit case studies regarding the relationship of intellectual property to the protection of biological diversity, and to the protection of indigenous knowledge and innovations; "[r]equests those parties that have not done so to develop national legislation and corresponding strategies for the implementation of Article 8(j) in consultation particularly with representatives of their indigenous and local communities;" and "[i]nvites governments ... to submit case studies including ... interaction between traditional and other forms of knowledge relating to ... biological diversity [and] the influence of current laws and policies on knowledge, innovations and practices of indigenous and local communities."[114] The Conference of the Parties further requests the Executive Secretary to produce a background paper considering the linkages between article 8(j), access to genetic resources, ownership of intellectual property rights, and alternative systems of protection of knowledge, innovations, and incentives.[115]

Similarly, in Decision III/17, "Intellectual Property Rights", the Conference of the Parties requests member countries to submit case studies regarding, among other things, the relationship of existing intellectual property law and the knowledge, practices, and innovations of indigenous and local communities. Neither of these decisions represent an advance out of the then four-year-old uncertainty about how to implement article 8(j).[116]

Two years later, in 1998, the parties had made little progress. A background document prepared by the *Convention on Biological Diversity* Secretariat in preparation for the Fourth Conference of the Parties reflects a an ongoing indecision on the part of the members. The Secretariat states that

> because the conservation for biological diversity affects so many different sectors, it is necessary to take into account the requirements of [article] 8(j) within a wide range of relevant laws and policies (those effecting natural resource sectors, land tenure, protected area, cultural heritage protection and language maintenance, intellectual property, appellations of origin, appropriate labeling and other such measures, and planning and development, for example) at the national and sub-national levels.[117]

The Secretariat proceeds to list "measures which respect, preserve and maintain traditional knowledge, innovations and practices."[118] The list includes compiling in-

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[114] UNEP, *The Biodiversity Agenda: Decisions from the Third Meeting of the Conference of the Parties of the Convention on Biological Diversity*, 2d ed. (New York: UNEP, 1997) at 47-49 [hereinafter *The Biodiversity Agenda*].

[115] This is also the decision wherein the Conference of the Parties requests that the Executive Secretary host a five day intercessional workshop to consider the implementation of article 8(j) and related articles. This Workshop was held at Madrid in November 1998.

[116] *The Biodiversity Agenda, supra* note 114 at 55-58.

[117] *Note by the Executive Secretary: Implementation of Article 8(j) and Related Provisions*, 2 February 1998, UNEP/CBD/COP/4/10 at para. 8.

[118] *Ibid.*

ventories of traditionally used species, extensive indigenous and local community consultations, promotion by indigenous and local communities of their world view, legislation to protect cultural heritage, involvement of indigenous participation in endangered species management, facilitating indigenous and local communities' access to public lands for ceremonial and subsistence purposes, and establishment of language centers and support for educational manuals. There is no mention of intellectual property. Shortly thereafter, however, the Secretariat dedicates a chapter entitled "Intellectual Property Rights", which describes the efforts of some countries to protect the intellectual property right of traditional knowledge holders. Similar ambivalence pervades other Secretariat documents leading up to the Second, Third, and Fourth Conference of the Parties.[119]

Finally, in Decision IV/9, "Implementation of Article 8(j) and Related Provisions," which was adopted at the Fourth Conference of the Parties in Bratislava, slightly more explicit language was adopted regarding the relationship of intellectual property-style protection and indigenous and local knowledge.[120] First, the Conference of the Parties recognized "that traditional knowledge should be given the same respect as any other form of knowledge in the implementation of the Convention."[121] Second, the Conference recognized "the importance of making *intellectual property-related provisions of Article 8(j)* and related provisions of the Convention on Biological Diversity and provisions of international agreements relating to intellectual property mutually supportive."[122] The fact that the Conference now unanimously adopts a decision that refers to "intellectual property-related provisions of Article 8(j)" suggests that there has been a gradual evolution in the Conference's collective mind or culture, and that the national implementation of article 8(j) regarding indigenous and local knowledge and innovations involves some form of intellectual property-style protection. The notion that indigenous knowledge should be treated on an equal footing with other forms of knowledge further supports the idea that the Conference is gradually adopting the notion that similar forms of protection—in this case intellectual property-style protection—should be available for the protection of both forms of knowledge.

It is important however, not to attribute undue significance to these statements. The fact is that the Conference of the Parties had the opportunity to explicitly endorse any form of implementation of article 8(j) (or the *Convention on Biological Diversity* in general). Neither of the above two statements explicitly state that indigenous

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[119] See *Knowledge, Innovations and Practices, supra* note 75; and *Note by the Executive Secretary: Workshop on Traditional Knowledge and Biological Diversity*, 18 October 1997, UNEP/CBD/TKBD/1/2.

[120] "Implementation of Article 8(j) and related provisions: Decision IV/9 of the Fourth Conference of the Parties to the Convention on Biological Diversity" in *Report of the Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity*, 15 June 1998, UNEP/CBD/COP/4/27.

[121] *Ibid.* at 111.

[122] *Ibid.* [emphasis added].

knowledge should be protected by intellectual property-style provisions on a national level by way of implementing article 8(j). The potential significance of these statements is also somewhat undermined by the wording of Decision IV/15, "The Relationship of the Convention with the Commission on Sustainable Development and Biodiversity-Related Conventions, Other International Agreements, Institutions and Processes of Relevance." In that decision, the Conference reverts to much more ambiguous language, emphasizing

> that further work is required to help develop a common appreciation of the relationship between intellectual property rights and the relevant provisions of the Agreement on Trade-related Intellectual Property Rights and the [Convention on Biological Diversity] in particular on issues relating to ... the fair and equitable sharing of benefits arising out of the use of genetic resources, including the protection of knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.[123]

In this decision, we see a reversion to the Conference's previous agnosticism regarding the need to provide intellectual property protection for the informal innovations of local and indigenous peoples in order to implement the *Convention on Biological Diversity.*

Of course, it has to be borne in mind that no country will be bound by subsequent unanimous interpretations or decisions by the Conference of the Parties regarding domestic implementation. Such decisions act as recommendations only. Although country members may be subjected to domestic and international pressures to implement such recommendations, they would not be under any formal legal compulsion to do so.

Finally, the Bratislava Convention of the Parties did decide to create an Open-Ended, *Ad Hoc*, Intercessional Working Group with a mandate to

> provide advice as a priority on the application and development of legal and other forms of protection for the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity.[124]

This body will meet for the first time in December 1999. The fifth meeting of the Conference of the Parties to the *Convention on Biological Diversity* will be held in May 2000. Until that time, related events concerning informal innovations and knowledge of indigenous and local peoples will be concentrated in this newly established forum.

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[123] *Ibid.* at 129.
[124] *Ibid.*

2. *Agenda 21: Earth's Action Plan*

Upon comparing the *Convention on Biological Diversity* with *Agenda 21: Earth's Action Plan*,[125] one senses immediately that the parties were much more at ease when drafting the latter, knowing they were not negotiating a legally binding agreement. Chapter 26 of *Agenda 21*, entitled "Recognizing and Strengthening the Role of Indigenous People and Their Communities," includes much more explicit language regarding possible governmental activities regarding indigenous knowledge than one finds in the *Convention on Biological Diversity*. Furthermore, Chapter 21 states: "Governments could ... adopt legal instruments that will protect indigenous intellectual and cultural property."[126] Similarly, with respect to policy participation, paragraph 26.3.b prescribes that governments *should* "strengthen the active participation of indigenous people and their communities in national formulation policies, laws and programs relating to resource management."

One obvious temptation in light of the stronger language of *Agenda 21* is to invoke it as a means of interpreting vague sections of the *Convention on Biological Diversity*. The utility of such an action is lessened, however, by the fact that *Agenda 21* is not a legally binding agreement, and its authority as an interpretive instrument is therefore much weaker than it would be otherwise. On the other hand, at least for the purposes of mounting political pressure, governments that are agnostic about their commitments pursuant to the *Convention on Biological Diversity* might be reminded of the "big picture" they endorsed in *Agenda 21*.[127]

F. Traditional and Local Knowledge and Innovations and the Convention to Combat Desertification

In the context of the transfer and development of technologies that "are relevant to combating desertification and/or mitigating the effects of drought," the *Convention to Combat Desertification* states that parties shall

> protect, promote and use ... relevant traditional and local technology, knowledge, know-how and practices, and ... ensure that such technology, knowledge, know-how and practices are adequately protected and that local populations

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[125] N. Robinson, ed., *Agenda 21: Earth's Action Plan* (New York: Oceana, 1993) [hereinafter *Agenda 21*].

[126] *Ibid.* at 509.

[127] See *e.g.* "Statement from the Conference of the Parties to the Convention on Biological Diversity to the Special Session of the United Nations General Assembly," Annex to Decision 111/19: Special Session of the General Assembly to Review Implementation of Agenda 21 in *The Biodiversity Agenda*, *supra* note 114 at 61-62, wherein it is stated:

> The Conference of the Parties emphasizes the significance of the Convention, and activities carried out in implementation of the Convention, to the achievement of goals set out in many of the chapters of Agenda 21. ... The Convention provides a set of legally binding commitments and is an important tool for translating the principles of the Rio Declaration on Environment and Development and Agenda 21 into concrete actions.

> benefit directly, and on an equitable basis and as mutually agreed, from any commercial utilization of them and from any technological development derived therefrom.[128]

The language of the *Convention to Combat Desertification* clearly borrows from, and builds upon, the language of the *Convention on Biological Diversity*. The former is somewhat stronger than the latter with the inclusion of words and phrases like "ensure" and "benefit *directly*" (instead of "encourage" and "equitable sharing") and "protect" (in addition to "respect, preserve and maintain"). Ultimately, however, the document fails to also require states to establish *sui generis* local and traditional knowledge protection laws and, like the *Convention on Biological Diversity*, subjects its prescriptive force to national legislation.

One rarely sees references to the *Convention to Combat Desertification* in the ongoing debate concerning *sui generis* protection for indigenous and local knowledge. One reason is that the types of knowledge that this Convention encounters—*i.e.*, trends in soil erosion, grazing, soil growth capacity, agricultural practices, local water table levels, etc.—is less amenable to treatment by way of intellectual property-style protection than is the knowledge which is the subject of the *Convention on Biological Diversity*, which would include medicinal uses of plants and improved crop varieties. Another reason is that, compared to the *Convention on Biological Diversity* for example—which conceivably has application to all indigenous local peoples around the world—the *Convention to Combat Desertification* applies only to indigenous peoples in areas affected by drought and threatened by desertification. Finally, there are a lot fewer signatories to the latter than to the former.

G. Indigenous and Local Knowledge and Innovations in the New WIPO Mandate

In March 1998, the WIPO General Assembly, which is comprised of representatives from all member countries, approved an expanded mandate for the Global Intellectual Property Issues Division ("GIPID").[129] GIPID was given the mandate to address four separate issues over a two-year period: (i) intellectual property rights for new beneficiaries; (ii) biological diversity and biotechnology; (iii) protection of expressions of folklore; and (iv) intellectual property rights beyond territoriality. The issue of intellectual property rights for new beneficiaries is the most relevant to the treatment of informal innovations of indigenous and local peoples (although there is significant overlap with the biological diversity and folklore issues).

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[128] *Supra* note 7.

[129] WIPO, *Main Program 11: Global Intellectual Property Issues*, A/32/2/WO/BC/18/2 at 105 [hereinafter *Global Intellectual Property Issues*]. This document is part of the larger *WIPO Program and Budget for the 1998-1999 Biennium*, 9 February 1998, presented by the Director General at the Assembly of Member States of WIPO, 32d Series of Meetings, Geneva, 25-27 March 1998.

Interestingly, under the rubric of "new beneficiaries", one of the earliest drafts of the new mandate included recognition that intellectual property should not be seen strictly as a utilitarian construct for commercial purposes, but also as a component of human rights regimes. A number of Western countries resisted this expansion of intellectual property's underlying rationale, however, and insisted that the paragraph should include weaker language *vis-à-vis* human rights. The final version of the document simply states, by way of introduction, that the *Universal Declaration of Human Rights*[130] identifies certain intellectual property rights as human rights.[131] Despite this evidence of Western recalcitrance to embrace potentially more profound theoretical conceptualizations of the function, role, and rationale for intellectual property, the new mandate appears to represent a significant opening to consider progressive options. For example, one of the stated objectives of the "new beneficiaries" sub-programme is to "explore the intellectual property needs and expectations of ... the holders of indigenous knowledge and innovations, in order to promote the contribution of the intellectual property system to their social, cultural and economic development."[132]

GIPID's mandate is limited. American support for the new mandate was secured in return for the concession that GIPID was not "on a norm-setting track"; that is to say, that its work is not intended to feed into a process which would end with the creation of a treaty or recommendations.[133] Nonetheless, WIPO enjoys potential influence through its relationship to other conventions and their administrations. For example, the WTO and WIPO have signed a Memorandum of Understanding whereby WIPO will provide technical support to the *TRIPs* Council.[134] Similarly, the Conference of the Parties has called upon cooperation between WIPO and the *Convention on Biological Diversity* Secretariat regarding, among other things, indigenous and local knowledge protection.[135] Certainly, a number of countries requested similar cooperation between WIPO and the Commission on Genetic Resources for Food and Agriculture in the last Commission meetings in June 1998. One would hope that there would be a high degree of overlap between the WIPO-GIPID "new beneficiaries" activities and the newly established Open-Ended, *Ad Hoc*, Intercessional Working Group on Article 8(j) over the next two years.[136]

The GIPID's sub-programme on "protection of expressions of folklore" responds to renewed calls by WIPO member states for work to be undertaken by WIPO with respect to the protection of folklore.[137] Again, the immediate mandate does not set

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[130] GA Res. 217(III), UN GAOR, 3d Sess., Supp. No. 13, UN Doc. A/810 (1948) 71.

[131] Interview with Richard Owens, Director, Global Intellectual Property Issues, WIPO (4, 6, 8 May 1998).

[132] *Global Intellectual Property Issues*, *supra* note 129 at 105.

[133] Owens, *supra* note 131.

[134] Currently there are only four full-time professional staff in the *TRIPs* Council; WIPO has twenty.

[135] *The Biodiversity Agenda*, *supra* note 114 at 114.

[136] WIPO held its first Roundtable on Intellectual Property and Indigenous Peoples on July 23-24, 1998.

[137] *Global Intellectual Property Issues*, *supra* note 129.

GIPID's efforts on a "norm-setting track". The sub-programme's official objectives therefore are relatively modest ones, limited to conducting studies concerning the relationship of intellectual property to folklore.

GIPID's mandate with respect to folklore and traditional knowledge has been renewed for another two years.[138] While the orientation of the program remains officially unchanged, the Unit's Director maintains that with respect to traditional knowledge, GIPID is shifting from exploratory, fact-finding work to technical examination of the existing intellectual property system, testing practical solutions and addressing conceptual issues.[139] It is important to note that WIPO is not limiting the scope of its enquiries to traditional knowledge *regarding biological resources and the environment.* To the extent that WIPO is successful over the next two years in making a case for the need for new international standards regarding knowledge protection, one can see how traditional knowledge protection norms could eventually expand to cover a wider array of indigenous and local knowledge. It is equally important to note, however, that the mechanisms for protection that WIPO considers must be based on intellectual property. Imaginative *sui generis* intellectual property laws might prove to deliver desirable benefits and controls to indigenous and local communities. But as the WIPO/GIPID initiative gains momentum over the next few years, it is important to remember that there may be other ways to protect indigenous and local knowledge that have nothing to do with intellectual property.

H. Indigenous Intellectual Property Rights in the Draft Declaration

Article 29 of the *Draft Declaration*[140] states that indigenous peoples are "entitled to the full recognition of the ownership, control and protection for their cultural and intellectual property." In addition, they

> have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs and visual and performing arts.[141]

If the *Draft Declaration* were to come into force in its present form, it would be the strongest statement to date regarding the obligation to provide legal protection for indigenous knowledge and innovations. It is expected, however, that various provisions of the draft will have to be altered to gain the approval of the United Nations Commission on Human Rights, the United Nations Economic and Social Council, and fi-

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[138] WIPO, *Draft Program and Budget 2000-2001*, A/34/2/WO/PBC/1/2 at 96.

[139] Interview with Richard Owens, Director, Global Intellectual Property Issues, WIPO (3 November 1999).

[140] *Supra* note 13.

[141] *Ibid.*, art. 29.

nally, the General Assembly.[142] The *Draft Declaration* also has the strongest language of all the instruments considered in this article regarding participatory rights and rights of self-governance.[143] It is impossible to predict at this time what form the intellectual property provisions will eventually take, if they are included at all in the final document.

I. Traditional Knowledge at the WTO

Very recently, a number of developing countries have proposed to the WTO General Council that protections for traditional knowledge should be included in the millenium round of trade negotiations under the aegis of the WTO.[144] Kenya, in particular, has proposed that a footnote should be added to article 27(3)(b) of *TRIPs*—a provision which requires that all WTO members, at the very least, provide "effective *sui generis*" intellectual property protection for plant varieties—stating that national plant variety protection laws could include provisions for the protection of traditional knowledge.[145]

It is unlikely that traditional knowledge protection will be included in the next round of trade negotiations. It is more likely that the council will opt to sponsor a study of the subject.[146] It is still far too early to predict how such a study would feed into the further elaboration of the international norm regarding indigenous and local knowledge.

J. Conclusion Regarding the Current State of International Agreements

In the series of international legal instruments analyzed above, there is a very definite trend toward the protection of indigenous and local knowledge through the implementation of national intellectual property-style laws. The first stage in this trend was the recognition that indigenous and local knowledge are valuable both inside and outside indigenous and local communities. That much was accomplished in ILO 169, the *Convention on Biological Diversity*, and the *International Undertaking*.

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[142] International Indian Treaty Council, *Indigenous Peoples' Draft Declaration Update, October 14, 1996*, online: International Indian Treaty Council <http://www.hawaii-nation.org/iitc/draftdec-update2.html> (date accessed: 15 March 1998).

[143] *Draft Declaration*, *supra* note 13, art. 3 states: "Indigenous and local peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development." Arts. 19-23 include strong assertions of the rights of indigenous peoples to participate in policy development and decision-making.

[144] "Proposal on Protection of Intellectual Property Rights Relating to the Traditional Knowledge of Local and Indigenous Communities, Communication" from Bolivia, Colombia, Ecuador, Nicaragua, and Peru, WT/GC/W/362 (12 October 1999).

[145] "The TRIPs Agreement" (6 August 1999) Communication from Kenya on Behalf of the African Group, WT/GC/W/302.

[146] Carvalho, *supra* note 43.

The second necessary stage is that some rights of control over that knowledge should flow from the recognition of its value. The *Convention on Biological Diversity* makes significant advances in the direction of vesting rights directly in communities, but ultimately, it does not fully achieve this goal. The requirements that (i) indigenous knowledge and innovations should only be promoted with the approval and involvement of the holders of such knowledge, innovations, and practices, and that (ii) parties should encourage the sharing of benefits that arise through the use of such knowledge, practices, and innovations suggest that rights of control and compensation should vest in communities. On the other hand, article 15 of the *Convention on Biological Diversity* ultimately vests control over genetic resources in states, and does not mention communities or individuals in this context.[147] Furthermore, despite including strong language regarding the protection of traditional and local knowledge, the *Convention to Combat Desertification* does not oblige states to create laws whereby rights of control over local and indigenous knowledge would vest directly in the traditional and local communities.

The current version of the *Draft Declaration* does vest ownership and control over indigenous intellectual property in indigenous communities. Unfortunately, it is not clear whether this provision will remain in the agreement by the time it is adopted, if in fact it is ever adopted.

At this point, it is important to make a statement about the relationship between the analysis of the treatment of indigenous and local knowledge in this article, and the property-related guarantees set out in the *Universal Declaration of Human Rights*,[148] the *International Covenant on Civil and Political Rights*,[149] and the *International Covenant on Economic, Social and Cultural Rights*,[150] referred to collectively as the "International Bill of Rights." As Rosemary Coombe points out, the case can be made that intellectual property rights, including indigenous and local communities' property interests in their own knowledge, are *already* recognized as international human rights both in these documents, and in international customary law.[151] Consequently, it might have made sense to start an analysis of the chronology of the evolution of an international norm regarding the treatment of indigenous and local knowledge with the *Universal Declaration of Human Rights* instead of with ILO 107, as was done in this article. However, indigenous and local knowledge is not explicitly mentioned in any these documents, and there has been a marked absence of discussion, until very re-

[147] It is also important to note in this context that the prescriptive force of article 8(j) was potentially weakened by the addition of the phrase "as far as possible and as appropriate." This phrase was added into article 8(j) after other substantive revisions were introduced. Countries anxious to minimize the obligations in this way included Brazil and Malaysia (Campeau, *supra* note 21).

[148] *Supra* note 130.

[149] *Supra* note 12.

[150] *Supra* note 11.

[151] R. Coombe, "Intellectual Property, Human Rights & Sovereignty: New Dilemmas in International Law Posed by the Recognition of Indigenous Knowledge and the Conversation of Biodiversity" (1998) 6 Ind. J. Global Legal Stud. 59 at 59.

cently, of indigenous and local knowledge in the context of the rights set out in them.[152] The notion that indigenous and local community intellectual property rights are inscribed in the International Bill of Rights is definitely gaining currency.[153] It appears however, that this position would not be enjoying growing support without the last thirty years' evolution of the treatment of indigenous and local knowledge that is explored in this article.

The international agreements that have contributed thus far to the evolution of intellectual property-style protections for indigenous and local knowledge do not "finish the job". Therefore, for the immediate future (pending the progress of the *Draft Declaration*), the focus regarding the creation of intellectual property protections for indigenous and local knowledge will have to shift to the level of domestic policy-making. Efforts on national fronts will be complemented by the work of GIPID's sub-programmes in intellectual property rights for "new beneficiaries" and the "protection of expressions of folklore," and the *Convention on Biological Diversity*'s newly formed Open-Ended, *Ad-Hoc*, Intercessional Working Group on the Implementation of Article 8(j) and Related Articles. Both of these bodies have explicit mandates to investigate issues surrounding intellectual property-related protection of indigenous and local knowledge, including national implementation of such protections. Both processes are member-state driven; there should therefore be a high degree of cooperation between states who are engaged in national processes of creating *sui generis* protection and these technical bodies.

IV. Synthesis of Positions Taken by and on Behalf of Indigenous and Local Peoples

As stated above, indigenous and local peoples want to forge a connection between the protection of indigenous and local knowledge, and territorial rights and the right to self-determination. This position is reiterated in various international indigenous and local peoples' declarations, and statements in international multilateral fora. For example, the first three "concerns" regarding states' strategies for the implementation of article 8(j) cited in the "Final Document of the Second International Indigenous

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[152] Coombe points out that countries have failed to include consideration of difficulties associated with providing intellectual property protection for indigenous and local communities in their country reports pursuant to the *International Covenant on Economic, Social and Cultural Rights* (*ibid.* at 71). See also Posey, *supra* note 53; D. Posey & G. Dutfield, *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (Ottawa: IDRC, 1996); P. Drahos, "The Universality of Intellectual Property Rights: Origins and Developments" in *Intellectual Property Rights: a Panel Discussion to commemorate the 50th Anniversary of the Universal Declaration of Human Rights* (Geneva: WIPO, 1998) (WIPO Doc. Publication No. 762(E)) [hereinafter *50th Anniversary*].

[153] See *e.g.* the proceedings of a panel discussion regarding international human rights and intellectual property—including intellectual property protections for traditional knowledge—organized by WIPO and the United National High Commissioner for Human Rights on November 9, 1998: *50th Anniversary*, *ibid.*

Forum on Biodiversity"—submitted in 1997 to the *Convention on Biological Diversity* Workshop on Traditional Knowledge and Biological Diversity—were: (i) "the lack of recognition of Indigenous Peoples ... as parties to the Convention" (*i.e.*, self-determination); (ii) "the lack of recognition of the relationship that exists between the lands and territories of Indigenous Peoples and their knowledge and biological diversity" (*i.e.*, territorial rights); and (iii) "the lack of control over indigenous land and territories and their natural resources and the environment" (*i.e.*, self-determination and territorial rights).[154]

Similarly, the Coordinadora de las Organizaciones Indìgenes de la Cuenca Amazonica/United Nations Development Programme ("COICA/UNDP") Regional Meeting on Intellectual Property Rights and Biodiversity states that "all aspects of the issue of intellectual property ... are aspects of self determination. ... For indigenous peoples, accordingly, the ultimate decision on the issue is dependent on self-determination."[155] Regarding territorial rights, the declaration states: "Integral indigenous territoriality, its recognition (or restoration) and its reconstitution are prerequisites for enabling the creative and inventive genius of each indigenous people to flourish and for it to be meaningful to speak of protecting such peoples."[156] Similar sentiments are expressed in other indigenous peoples' statements.[157] Local community and farmers' statements also stress territorial rights[158] and the right to self-determination,[159] though they are perhaps less likely than indigenous peoples to demand the latter.

Many indigenous and local peoples are skeptical about the ultimate usefulness of having intellectual property protections which are not somehow integrated into their struggle for land and self-government rights. The incentive system that is embedded in intellectual property law threatens to undermine, and replace, customary practices and values. Many are simply not willing to entertain embracing a legal regime that has such culturally corrosive potential in return for the possibility of financial remuneration. Many people, both inside and outside indigenous and local communities, are skeptical about the potential *market* value of indigenous and local knowledge in the first place. For example, Geoffrey Hawtin, Director General of the International Plant Genetic Resources Institute ("IPGRI"), holds that many of the claims regarding the potential market value for traditional farmers' plant varieties may be grossly exaggerated. While farmers' varieties always have been, and always will be, crucial compo-

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[154] *Report of the Workshop*, *supra* note 17 at 25.

[155] COICA & UNDP, "COICA/UNDP Regional Meeting on Intellectual Property Rights and Biodiversity" in Posey & Dutfield, *supra* note 17, 205 at 205.

[156] *Ibid.*

[157] The fact that indigenous groups have forged a connection between knowledge protection and territorial rights, on the one hand, and self-determination, on the other, is not entirely unpredictable. A 1996 study carried out by the Working Group on Traditional Resource Rights found that out of sixty-three Indigenous peoples' statements, the two most frequent demands were for (i) self-determination, and (ii) territorial rights: see Posey, *supra* note 53 at 16.

[158] Posey, *ibid.* at 209.

[159] *Ibid.* at 207.

nents of global food security, they are not in high demand for use in the lucrative breeding efforts of commercial plant breeders.[160]

Similar skepticism exists with respect to the ability of indigenous communities to command a respectable price for their knowledge of the medical uses of plants. Although there are a number of celebrated international deals wherein indigenous people have contributed their knowledge regarding the identity and use of medical plants, details concerning rates of remuneration are not publicly available. Some non-governmental organizations allege that these deals offer so little to the indigenous communities involved that they really amount to nothing more than a way of improving the appearance of continued exploitation.[161] Given the uncertainty of these deals—and the widely held conviction that it will be impossible for indigenous and local communities to capture significant benefits from such deals in the absense of national laws governing access—many indigenous peoples' declarations call for a moratorium on bioprospecting—*i.e.*, foreign researchers and commercial institutions seeking access to local biological diversity and/or related indigenous knowledge—until suitable forms of protection are created.[162]

Quite apart from the question of the market value for indigenous knowledge, many indigenous people do not believe that intellectual property law is a necessary or desirable means of encouraging innovation within their communities (which is the standard utilitarian justification for intellectual property laws). The possibility of future commercialization is not necessarily amenable to the kinds of innovations that indigenous and local peoples, as communities, are interested in encouraging. Again, embracing an intellectual property legal regime as a system of incentives for innovation involves embracing connection to the very "outside" forces which many indigenous and local peoples feel threaten their cultural survival.[163] In short, they do not need the possibility of commercializing their knowledge as an incentive to innovate; they need land. They know the kinds of innovative activities they want to engage in, but they need land upon which to do it.

It must be noted, however, that the control which intellectual property law provides intellectual property owners can be used for purposes other than commercialization. A common criticism of copyright law, for example, is that it has often been used as a vehicle for censorship.[164] Intellectual property law can also be used defen-

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[160] G. Hawtin, IPGRI Lunch Time Seminar (4th Conference of the Parties to the Convention on Biological Diversity, 14 May 1998) [unpublished].

[161] Rural Advancement Foundation International ("RAFI"), "Biopiracy Update: The Inequitable Sharing of Benefits" *RAFI Communique* (September-October 1997) 1.

[162] *Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples* in Posey & Dutfield, *supra* note 17, 207 at s. 2.8 [hereinafter *Mataatua Declaration*]; and *Report of the Workshop*, *supra* note 17.

[163] Interview with Alejandro Argumedo, Executive Director, Indigenous Peoples' Biodiversity Network (11 June 1998).

[164] M. Halewood, "Re/conceving Author(ity): A Plain Language Investigation of Structuralist and Post-Structuralist Insights into Patent and Copyright Law" (March 1997) [unpublished].

sively, as a means of protecting others from gaining control of innovations for their own profit. The Consultative Group on International Agricultural Research centres ("CGIAR") have recently endorsed a system-wide scheme whereby individual centres may engage in defensive patenting of their own innovations simply to prevent profit-driven companies from appropriating their work and commercializing it. Simultaneously, the centres adopted the policy that they will not seek to commercialize these intellectual property-protected innovations.[165]

As an alternative to mainstream intellectual property-style protections, many indigenous and local peoples' statements call for a reinvigoration (and legitimization) of their own customary systems of knowledge exchange and distribution.[166] Some of these systems may in fact involve systems of control that resemble aspects of intellectual property law,[167] and it is possible, therefore, that certain elements of current intellectual property law could be modified to fit within indigenous systems. Some declarations clearly state, however, that they want to create a system that is their own, and not a modification of "mainstream" intellectual property law.[168]

Not all indigenous and local peoples are unanimously opposed to the use of intellectual property-style entitlements as a means to commercialize their knowledge. There are currently numerous instances of contractual agreements between foreign researchers and commercial institutions, as well as between national governments and indigenous peoples, which involve indigenous and/or local people supplying knowledge regarding the selection and use of plants. These communities appear to welcome the opportunity to be paid for their contribution. Presumably, these communities are not in favour of a moratorium on bioprospecting. On the other hand, their willingness to participate in bioprospecting deals for relatively short-term gains should not be interpreted as a rejection of the broader goals of self-determination and territorial rights.

Conclusion: Prescriptions for Action and Analysis

As stated in the conclusion to Part III, above, international law has evolved in the direction of, but not arrived at, the creation of obligations for states to implement *sui generis* intellectual property protection for indigenous and local knowledge. Any further developments with respect to *sui generis* indigenous and local knowledge protection (pending implementation of the *Draft Declaration*) will therefore have to take place at the domestic, governmental level. Efforts on the domestic front should be in-

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[165] "Annex No. 6: Guiding Principles for the Consultative Group on International Agricultural Research Centers on Intellectual Property and Genetic Resources" in CGIAR, *Centers Position Statement on Genetic Resources, Biotechnology and Intellectual Property Rights* (19 May 1998) [unpublished].

[166] See *Draft Declaration*, *supra* note 13, arts. 21, 26, 31; and *Mataatua Declaration*, *supra* note 162, arts. 2.1, 2.6.

[167] D. Cleveland & S. Murray, "The World's Crop Genetic Resources and the Rights of Indigenous Farmers" *Current Anthropology* 38:4 (August 1997) 482.

[168] *Ibid.*

tertwined as much as possible with the efforts of the GIPID Unit and the Open-Ended, *Ad-Hoc*, Intercessional Working Group on Article 8(j).

All parties engaged in these efforts, however, must be careful not to ignore the deeply-rooted interests of indigenous and local peoples in self-determination and territorial rights. Too narrow a focus on intellectual property protection with commercialization in mind, while well-intentioned, could ultimately disempower the communities. Such efforts were intended to assist by pulling them deeper into the assimilationist stream. At the very least, a *sui generis* system which is designed primarily to facilitate the commercialization of indigenous and local knowledge would be open to the charge of squandering an opportunity for those communities to make progress with respect to goals which are more significant to their long-term survival. One need only re-read the text of ILO 107 to see how easy it is for the international community to subvert the interests of indigenous and local people in the pursuit of their "protection".

It is not very helpful to simply issue a general recommendation that states making new laws for indigenous knowledge protection should incorporate indigenous demands for territorial and political autonomy. Ultimately, just how far states are willing to go to accommodate such demands will depend on the history of their relations with the indigenous and local peoples within their borders. The legal treatment of indigenous territorial rights and self-determination is changing rapidly is many countries. For example, in 1997, the Supreme Court of Canada issued a decision regarding aboriginal non-treaty territorial rights that gave priority to aboriginal customary land use in the arbitration of current land claims.[169] The Supreme Court of Australia made a similar ruling seven years ago.[170] Efforts to create national *sui generis* legislation that gives some expression to indigenous communities' territorial and self-determination concerns will clearly have to work within the context of such rulings, and in the context of ongoing struggles by indigenous and local peoples for the realization of their rights in other national and sub-national fora.

Despite the need to take national peculiarities into consideration in the formulation of domestic *sui generis* laws for the protection of indigenous and local community knowledge, it is possible to make a few generic recommendations about how to proceed (in such a way as to mitigate as much as possible the underlying tension between the potential willingness of national governments to protect indigenous knowledge and their recalcitrance to consider territorial and self-determination in this context). The benefit of the following recommendations is that they rely heavily on indigenous and local community participation, and they do not require substantive concessions (at least not initially) by national governments concerning indigenous and local communities' territorial and self-determination rights. Their weakness is that they are procedural in nature, without explicit substantive content.

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[169] *Delgamuukw* v. *British Columbia*, [1997] 3 S.C.R 1010, 153 D.L.R. (4th) 193.

[170] K. Puri, "Cultural Ownership and Intellectual Property Rights Post-*Mabo*: Putting Ideas into Action" (1995) 9 I.P.J. 293.

First, national policy-makers should consult with the indigenous populations within their borders to determine what those groups ultimately want to achieve by way of protection for their knowledge. As the analysis in Part IV, above, made clear, indigenous and local communities' primary interest is not the commercialization of their knowledge. Alternative (potentially complementary) goals include the power to prohibit researchers who would use knowledge they gleaned from communities in ways that the communities find disagreeable, embarrassing, or destructive to their own customs; the legal (perhaps constitutional) right to be consulted in matters wherein their knowledge is relevant, or where their interests as a community are engaged; and the guarantee of governmental support for programmes designed to promote indigenous languages and culture. As the analysis in Part III on the potential means of implementing article 8(j) demonstrated, there are many ways of promoting and protecting indigenous knowledge. Before adopting national schemes of *sui generis* intellectual property protection for indigenous and local knowledge, communities that will be affected should be consulted as to whether that is something they actually want.

Second, if in fact it is determined that the primary goal of *sui generis* knowledge protection is for the purpose of guarding that knowledge's commercial value, then market feasibility studies should be conducted. All parties should have as much information as possible regarding the potential benefits to be derived from such commercialization. As noted above, there is considerable controversy as to the market value of indigenous and local knowledge. There is considerable evidence that expectations have been unrealistically raised with respect to indigenous knowledge's marketability.

Third, national governments should consult with indigenous and local populations regarding their own customary systems of knowledge sharing and control. Both parties could then work together to create a system of protection that is based, as much as possible, upon those communities' systems. Such efforts may entail having to negotiate a number of difficult issues such as (i) a number of distinct indigenous customary legal systems within the State that would need to be taken into consideration, (ii) possible conflicts between the new *sui generis* system and the existing intellectual property systems, and (iii) possible conflicts between those aspects of the indigenous customary law that embrace territorial rights and existing land laws.

Fourth, all parties should keep the "loopholes" or potentially complementary aspects of existing intellectual property law in mind when negotiating their *sui generis* protection systems. As the discussion in Part II, above, pointed out, not all of intellectual property law is hostile to the possibility of the protection of knowledge that does not conform to the standards of patent or plant breeders' rights law. For example, geographic indications respect and protect traditional knowledge and production techniques. While article 27(3)(b) of *TRIPs* does require some form of *sui generis* law to protect plant varieties, it does not require compliance with UPOV conventions. Consequently, countries are free to create *sui generis* systems of plant variety protection which conform more closely to laws concerning geographical indicators than to patent or plant breeders' rights law. Similarly, the rule against protecting "essentially derived" plant varieties can be used to protect traditional indigenous and local plant varieties (presuming they are protected in some form of *sui generis* legislation)

against being used without permission in the same way that the rule currently protects industrial plant breeders varieties against the predatory possibilities of biotechnology.

Finally, all parties engaged in creating and/or advocating domestic *sui generis* laws to protect indigenous and local knowledge should participate as much as possible in the work scheduled to be undertaken by GIPID and the Open-Ended, *Ad-Hoc*, Intercessional Working Group on Article 8(j). The active participation of all stakeholders at domestic, national, and international levels is crucial to ensuring that the norm to protect indigenous and local knowledge continues to evolve in a useful, positive direction.