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## **Using Intellectual Property as a Tool to Protect Traditional Knowledge:**

### **Recommendations for Next Steps**

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***DISCUSSION DRAFT***

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## **Executive Summary**

The knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to biodiversity (traditional knowledge) are legally protected under Article 8(j) of the Convention on Biological Diversity (CBD). They are, however, under serious threat of erosion. Many in indigenous and local communities fear they are losing control of their knowledge and that outsiders are appropriating its benefits.

Intellectual property rights (IPRs), as one of the main mechanisms most countries use to allocate rights over knowledge, has a significant role in the relationship between indigenous and local communities, their knowledge, and the other societies with which they interact. Currently, many aspects of IPRs appear to be more or less neutral, but some aspects of IPRs may be contributing to the problem of knowledge loss, while others have the potential to help solve it.

As the Conference of the Parties (COP) has recognized in its decisions on intellectual property rights and traditional knowledge, Parties to the CBD need to do further work on the linkages between IPRs and the achievement of the goals of Article 8(j). Part of the work involves clarifying the issues in the current debate. We offer some preliminary efforts at clarification thoughts on this in Part II below.

Although IPR currently provides limited incentives to communities, CIEL believes that some form of IPRs could be a valuable tool for communities to use to control their traditional knowledge and gain greater shares of the benefits. CIEL urges CBD Parties to explore possible modifications to existing IPRs, or the creation of *sui generis* rights, that could accomplish these goals.

These efforts should include support of local initiatives and development of national laws, policies and institutions. At the international and regional levels, CIEL recommends that countries establish a framework of laws, policies and programs that support such experimentation. In particular, CIEL recommends the following initiatives, discussed further in Part III:

1. Maintain or expand the life patenting exception and *sui generis* clause under the TRIPs Agreement, and explore alternatives (including *sui generis* measures) for protecting traditional knowledge.
2. Explore the development of geographical indications or trademarks for products of indigenous and local communities= traditional knowledge.
3. Support establishment of national and international registries of traditional knowledge.
4. Consider requiring patent applicants to disclose traditional knowledge and its origin as well as the origin of genetic resources used in the invention.
5. Conduct case studies on the impact of IPRs on control and sharing of benefits from specific uses of traditional knowledge and associated genetic resources.
6. Evaluate other IPRs-related concepts -- such as authors= moral rights -- from both conventional and indigenous IPRs systems, as models for protecting traditional knowledge.
7. Designate these activities as funding priorities for the financing mechanism.

## **I. Introduction**

CIEL urges the participants in this Workshop on Traditional Knowledge of the Parties to the Convention on Biological Diversity (CBD) to endorse the following six recommendations relating to traditional knowledge.<sup>1</sup> These actions would contribute to implementation of the decisions on Article 8(j) and on intellectual property rights (IPRs) adopted at the third meeting of the Conference of the Parties (COP) in November 1996.

We recognize that the CBD Secretariat and other CBD institutions are burdened with a full agenda, and that their primary role should be to design, rather than implement, programs of work. Thus, we have identified a number of other institutions that could contribute support to the recommended activities, such as WIPO, the WTO, UNESCO, UNDP, and FAO. Involvement and direction from representatives of indigenous and local communities themselves are, of course, essential to all of the recommendations.

The knowledge, innovations and practices (traditional knowledge) of indigenous and local communities embodying traditional lifestyles relevant for conservation/sustainable use of biodiversity are being lost at an alarming rate. Traditional knowledge is a valuable heritage for the communities and cultures that develop and maintain them, as well as for other societies and the world as a whole. In the context of biodiversity, it is valuable for achieving conservation and identifying sustainable uses of biodiversity and genetic resources in important sectors such as agriculture and medicine.

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<sup>1</sup> Consistent with common usage, this paper uses the abbreviated term *A*traditional knowledge $\cong$  to refer to the subject-matter of Article 8(j) of the Convention on Biological Diversity, that is, *A*knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity. $\cong$  While this term is a convenient shorthand to refer to the complex of ideas embraced by Article 8(j), it is important to remember that indigenous knowledge systems do not just conserve knowledge but also innovate; they are evolving and dynamic, rather than static, as recognized in COP Decision III/14.

Article 8(j) of the Convention on Biological Diversity (CBD) provides that Parties shall respect, preserve and maintain such traditional knowledge, promote its wider application with the approval and involvement of the holders of such traditional knowledge, and encourage the equitable sharing of the benefits arising from its utilization. Parties are to carry out this obligation as far as possible and subject to national legislation.

## **II. A Preliminary Critique of the Current International Debate**

There is a continuing controversy over the impacts of IPR systems on the traditional knowledge of indigenous and local communities.<sup>2</sup> Many indigenous peoples= representatives and commentators complain that existing IPR systems are inadequate to protect indigenous intellectual and cultural property rights (e.g. Mataatua Declaration 1993). Others argue that existing IPR systems encourage the erosion of indigenous traditional knowledge. They argue that existing systems, which are oriented around the concept of private ownership and individual invention, are inherently at odds with indigenous cultures, which emphasize collective creation and ownership of knowledge. AThere is concern that IPR systems encourage the appropriate of [traditional knowledge] for commercial use without the fair sharing of benefits, or that they violate indigenous cultural precepts by encouraging the commodification of such knowledge≡ (UNEPb 1996 & 32.)

With some commendable exceptions, discussion of these concerns to date has often been hampered by a lack of an adequate base in the specifics of intellectual property law and the specifics of concrete uses of traditional knowledge.<sup>3</sup> The discussion in this section critiques a few of the many complex issues in this area, in the hope of establishing a stronger foundation for future analysis and discussion.

**Confusion About Goals and Types of IPRs.** IPRs such as copyright and patent are legal rights created as mechanisms to encourage *innovation* -- the creation and disclosure of new knowledge or new expressions. These rights are granted to a defined individual or group of individuals identified as the inventor or creator, although they can be transferred to another by sale or gift. Traditional knowledge and practices, in contrast, are often handed down from generation to generation, and have no clearly identifiable individual inventor. Thus, it has been widely stated that IPRs are not suitable for traditional knowledge because they protect new knowledge that is created by individuals and do not recognize collective rights (e.g Axt, et al. 1993, p. 58).

The reality is, however, more complicated than these generalizations suggest. First, while it is true that many indigenous cultures appear to develop and transmit knowledge from generation to generation within a communal system, individuals in local or indigenous

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<sup>2</sup>This paragraph relies largely upon UNEP 1996b, && 32-33.

<sup>3</sup> As the CBD Secretariat has noted, A[i]t appears ... that there has been little objective analysis of specific instances involving actual or potential impacts of IPR on the traditional knowledge or practices of indigenous or local communities≡ (UNEPb 1996, & 34).

communities can distinguish themselves as informal creators or inventors, separate from the community (Gupta 1992). They may be singled out for their efforts, and praised as clever or scorned as peculiar. Equally important, some indigenous or traditional societies are reported to recognize various types of intellectual property rights over knowledge, which may be held by individuals, families, lineages or communities innovations (Cleveland & Murray in press). Discussion of IPRs and traditional knowledge should draw more on the Adiversity and creativity of indigenous approaches to IPR issues (Downes in press). In addition, there are power as well as knowledge divisions among people in many communities, and sharing of benefits with a community as a whole is no guarantee that the people who are really conserving traditional knowledge and associated biodiversity will gain the rewards they deserve for their efforts.

Second, some IPRs -- in particular geographical indications and in some circumstances trademarks -- are in fact intended not to reward innovation, but rather to reward members of an established group or community adhering to traditional practices belonging to the culture of that community or group. They are designed to reward good will and reputation created or built up by a group of producers over many years or even centuries. Geographical indications, in particular, can create economic rewards for producers who use traditional methods in the region where the product has been traditionally produced (see discussion below, Part III.2).

**Exclusive Focus on Market-Based IPRs.** IPRs are one of the mechanisms used to maintain the existing system of creation of knowledge and technology characteristic of capitalist industrialized societies. Most -- but not all -- IPRs are market based mechanisms. Patents, for example, are useful only where there is a market for a product subject to the patent or other right, or for the product that is produced by the process subject to the patent. Geographical indications are useful where consumers are willing to pay a premium on the market for products manufactured in the relevant region according to that region's traditional methods.

Yet we must be careful not to overgeneralize about the market-based nature of IPRs. It is important to keep in mind that there are exceptions to this rule that IPRs are market based mechanisms. One example is the moral right of authors protected under the law of a number of countries and recognized in international human rights law. Experience with implementation of this and other non-market-based rights could be useful in developing models for a right to protect traditional knowledge, innovations and practices (see Part III.6 below).

Even more important, we must remember that market-based mechanisms -- whether consisting of IPRs or some other mechanism -- are not the only incentive for encouraging the creation or maintenance of knowledge or practices. In fact, some kinds of knowledge are excluded from IPR protection and their use is kept in the public domain, such as most scientific discoveries about qualities or behavior of the natural world. Although changes are underway, especially in molecular biology and biotechnology, in most fields of science, IPR is less important than other incentives.

These other incentives include honor and recognition as evidenced and rewarded through publication, citation, academic tenure, prizes for academic achievement or demonstrations of skill in public competitions, and awards of government grants for research (see e.g. Gupta 1995).

These incentives generally involve competition, but they do not involve direct competition on the market for payment in return for knowledge produced. The history of Western-style science illustrates how very effective these mechanisms have been (Brush 1996a). It will be very important for the CBD Parties to explore non-market alternatives to IPR, such as scholarly standards for citation to information from people in indigenous and local communities. They are, however, beyond the scope of this paper.

An overemphasis on IPRs as a mechanism for encouraging innovation is characteristic of trade policymakers from industrialized countries, especially the United States. United States trade officials often speak as if the strongest, broadest protection of IPR is the best policy for society, losing sight of the need to balance public domain and private ownership. Thus, a few years ago Carla Hills, then USTR, called for Acomplete protection of intellectual property ... [T]he higher the protection, the more ... [IPR] benefits developing countries .... [T]he more you protect intellectual property, [the more that] established firms are willing to pour more into research and development to try to address mankind=s problems ....≡ (quoted in Boyle 1996, p. 124).

This kind of rhetoric ignores the fact that even within the United States there is serious controversy over proposed expansions of IPR advocated by US officials, including trade officials, at the behest of certain segments of industry. Regarding copyright of digital information, for example, US Administration proposals have been criticized as excessively favoring current large-scale owners of copyrights (Littman 1996). Similarly, the expansion of IPRs to control digital reproduction of information may hinder freedom of speech (Barlow 1994). At a 1996 WIPO diplomatic conference in Geneva, the US was forced to abandon its support of a broad sui generis IPR for databases after a surge of domestic opposition from a combination of industry groups, citizen=s organizations and academic researchers and libraries.

**Moralistic and Absolute Language For and Against IPRs.** Advocates on both sides of this debate have advanced their claims in moralistic terms. It is true that there is a core of moral value to existing IPR systems. There is a widely held notion that a person has a moral right to control the product of her labor and creativity. Thus, the Universal Declaration of Human Rights provides that A[e]veryone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author≡ (Article 26).

There is, however, no moral basis for the specific accidental forms that IPR has taken under existing regimes, or could take under various proposals. Instead, modern thinking on IPR systems is that they are socially agreed upon systems of incentives to encourage innovation (Blakeney 1996, pp. 151-52). The precise outlines of an IPR are defined by striking a balance among various social goals. On the one side, a private property right is conferred to reward a specific inventor=s or creator=s investment in research and development, and to encourage public disclosure of the invention or creative work. On the other side, the right is limited in duration and subject to exceptions, in order to maintain the public domain needed for a free flow of ideas and information for use by all inventors and creators in the society. A[I]ntellectual property rights are limited monopolies conferred in order to gain present and future public

benefit; for the purpose of achieving those goals, the >limitations= on the right are just as important as the grant of the right itself≡ (Boyle 1996, p. 124).

For instance, the TRIPs Agreement provides that WTO members must honor patents for a term of at least twenty years. As applied to the more than 130 Members of the WTO, this term may or may not strike the right balance between competing social goals. It would be absurd, however, to argue that this twenty year limit has a moral basis. No one=s human rights would be violated if a country established a patent term of eighteen years rather than twenty. The duration of a patent merely reflects a balance between competing social interests, aimed at maximizing social welfare. It is impossible to deduce a single fair and equitable IPR system from the general human rights principles available to us.

Advocacy by United States industry and government are largely to blame for the moralistic tone of the current debate. During the Uruguay Round of negotiations under the General Agreement on Tariffs and Trade, certain US interests -- such as chemicals, pharmaceuticals, and entertainment industries -- persuaded the US government to put IPR protection on the agenda. Initially, however, the grounds for including IPR were far from obvious. While some of the earliest multilateral agreements in international law concern intellectual property (such as the Paris and Bern Conventions), they imposed only limited uniformity upon countries. Instead, IPR had previously been considered primarily a domestic policy question to be decided according to a particular country=s development needs.

The US also found itself in the perverse position of arguing that the goal of trade *liberalization* necessitated trade *restrictions*, in the form of import bans on products produced by unlicensed copiers of patented pharmaceuticals or copyrighted sound recordings. To help support this counterintuitive argument, US industry and government officials habitually employed the rhetorical device of branding foreign copiers of US technology as Apirates.≡

The Apiracy≡ slogan is misleading. Even in a bastion of strong IPRs such as the US, ordinary people do not consider copying of items protected by IPRs to be an outrage equivalent to theft of physical property, let alone the kidnaping and robbery associated with the term Apiracy≡ (cf. Boyle 1996).<sup>4</sup> As one well-known US commentator on intellectual property in digital information says, A[w]hen I give speeches [on software copying], I always ask how many people in the audience can honestly claim to have no unauthorized software on their hard disks. I=ve never seen more than 10 percent of the hands go up≡ (Barlow 1994).

A problematic result of industry efforts is that IPR policy in countries like the US is increasingly driven by trade policy, which seeks to maximize US-based industry=s foreign earnings by maximizing their legal control over innovative technologies or entertainment products (Jaszi 1996).

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<sup>4</sup>This social consensus is reflected in the law. For example, an inventor owns a patent for only twenty years, while an owner of physical property holds legal rights for a lifetime, and has the right to designate an heir.

Industry rhetoric about piracy led to an understandable counterattack by advocates for farmers= rights and interests of indigenous peoples and developing countries. They coined the term Abio-piracy≡ to describe the industrial practice of patenting products based in part upon traditional knowledge or genetic resources created by traditional farmers, without providing any compensation or recognition.

These often witty counterattacks were useful in denying industry its ill-founded effort to grab the moral high ground. Catalogues of alleged cases of Abiopiracy≡ dramatized the importance of contributions of traditional knowledge and informal innovation by indigenous and local communities situated mainly in the developing world (e.g. RAFI 1996; see also RAFI 1994).

However, an examination of specific cases in which traditional knowledge is commercialized reveals that it is not always easy to determine exactly where the inequity may lie, case by case. (See discussion in Part III.5 below). Imprecise use of the technical language and concepts of intellectual property law sometimes makes it difficult to identify exactly what the practical problems are, and unnecessarily alienates different interest groups, such as industry, intellectual property experts, and indigenous and local peoples= organizations. These are the very groups that will need to cooperate, to some extent, in order to define mechanisms for more effective sharing of benefits with the providers of traditional knowledge and genetic resources.

One other point should be mentioned. Sometimes it is argued that industrial patent holders merely Atinkered≡ with the natural substance or traditional practice, making only minor changes (e.g. Nijar n.d., p. 4). The implication is that it is unjust for the patent holder to gain exclusive rights for making changes that are either minor or obvious. The issue of whether patents like those related to the neem tree are Anon-obvious≡ is a technical one that probably warrants further investigation. It is important to understand, however, that a patent covers only the invention described and nothing more. If the invention is indeed minor and not worth very much, then the patent covers a minor invention and is not worth very much. If the invention is a major advance, the patent is more valuable.

Equally important, a patent does not generally cover knowledge already known. One exception is that under the Afirst-to-file≡ system that prevails in most of the world, an inventor that files a patent application first may gain the patent even though another person achieved the invention earlier. Another exception, more relevant for indigenous concerns, is that in researching whether an invention is already part of the Aprior art≡ and therefore not novel, a patent office may not survey foreign literature in which descriptions of traditional knowledge appeared.

### **III. Recommendations on Using Intellectual Property to Implement Article 8(j)**

In addition to the critical comments in Part II above, there are several general points to keep in mind when considering options for implementation of Article 8(j). First, it is important to keep in mind the objectives that advocates for indigenous peoples and farming communities

have articulated in this area:

- ! To ensure that a fair share of the benefits go to Indigenous and local communities when others use their knowledge or resources that they have conserved;
- ! To ensure that the people of Indigenous and local communities receive recognition and acknowledgment for their contributions to universal knowledge and welfare;
- ! To help Indigenous and local communities develop their own economic uses of their traditional knowledge and associated biological resources, which are consistent with traditions of sustainable use.
- ! To ensure protection of the rights of Indigenous and local communities over their knowledge, innovations and practices as defined under 8(j), as part of a broader goal of achieving protection of their cultural heritage.

This paper has argued (in Part II) that a focus on morally defined rights will not be successful, because it is too difficult to build arguments to bridge the wide gap between general human rights and indigenous rights principles, and the specific details of existing or proposed IPR systems. Instead, this paper focuses on the creation of realistic incentives, including forms of IPR, that could implement Article 8(j).

This paper also argues that the term *Aequitable sharing of benefits*≡ should be defined by reference to the costs incurred by Indigenous and local communities in conserving their knowledge and associated biodiversity, rather than by reference to the value of the knowledge and associated biodiversity that they are conserving. It is essentially impossible to attribute an objective economic value overall to this knowledge and associated resources, for a number of reasons, such as the absence of a market for genetic resources, and the complexity of inputs into creation of new crop varieties (cf. Brush 1996b). Thus, it will be more useful to focus on the costs of conservation to indigenous and local communities as a guide to designing incentives that will help them gain adequate rewards.

Another general point to keep in mind is that indigenous and local communities seeking to use IPRs will face major practical obstacles. IPR systems generally involve complex procedures and legal concepts, requiring expensive legal assistance, as well as repeated communication with national or international government offices. To the extent that new IPR measures are employed to assist communities, financial and technical assistance, streamlined procedures, or other facilitating measures will be needed. On the other hand, similar obstacles apply to at least some of the alternatives that have been offered, such as public sector funding of projects in indigenous and local communities, which could easily fall prey to problems of top-down design, inept grant selection and corruption that have plagued development assistance generally.

Perhaps most important, the definition of key terms of Article 8(j) will be an essential first step in most of the initiatives discussed below. Unfortunately, the Secretariat=s background paper for this meeting (UNEP/CBD/TKBD/2) does not adequately address this problem. For example, the section of the Secretariat=s paper entitled *Aelaboration of key terms*≡ does not even mention the term *Aindigenous and local communities*.≡ Defining terms is an overarching task on which organizations involved in exploring the various issues discussed below will need to

coordinate.

8. Maintain or Expand Life Patenting Exception and *Sui Generis* Clause Under the TRIPs Agreement, and Explore Alternatives (Including *Sui Generis* Measures) for Protecting Traditional Knowledge

In the 1999 TRIPs Council review of Article 27.3(b) of the TRIPs Agreement, Parties who are WTO Members should maintain the provisions allowing countries to exclude plants and animals from patenting and to develop *sui generis* systems for plant variety protection. They should also consider expanding the exception from patenting to cover microorganisms. Maintaining this discretion is essential, to preserve the flexibility needed to experiment with various approaches to protection of traditional knowledge, and to allow for further evaluation of other complex ethical and socioeconomic issues. The CBD financing mechanism should support Parties' efforts to develop national *sui generis* systems, in consultation with relevant organizations such as FAO, WIPO and IPGRI. Parties should share national experiences in appropriate CBD, WTO, FAO and WIPO bodies.

As summarized by the CBD Secretariat in the background paper on IPRs for COP III, the TRIPs Agreement's provisions on patenting

require[] countries to recognise patents on most products and processes, including pharmaceuticals, modified microorganisms, and "microbiological processes" (Article 27.3(b)). Furthermore, countries must protect plant varieties either through patents or an "effective *sui generis* system" or both (*ibid.*) The TRIPs Agreement leaves to each country's discretion whether to recognize patents on plants or animals, or "essentially biological [but not microbiological] processes for the production of plants or animals" (*ibid.*). The provisions of Article 27.3(b) will be reviewed in 1999, four years after the entry into force of the Agreements Establishing the WTO (*ibid.*)

(UNEP 1996a, & 25). TRIPs provides developing countries with a five-year grace period to phase in most of the Agreement's requirements, while least developed countries have an eleven-year grace period for implementing most obligations (Ibid. at & 23.)

We strongly recommend that CBD Parties who are WTO Members work through the TRIPs Council to maintain the discretion about plant and animal patenting that the current language of Article 27.3(b) allows. It can be expected that the United States, currently not a party to the CBD, will apply a great deal of pressure in the 1999 TRIPs review to remove this discretion. Other industrialized countries may side with the US. However, the existing discretion is essential to give CBD Parties the space they need to experiment with various approaches to implementing Article 8(j) through IPR. Given the complexity of the issues, countries badly need to develop experience resolving them through various pilot projects and programs, and this will require a phase of experimentation. Requiring all countries to uniformly recognize life patenting, and requiring uniform systems of PVP, would block countries from gaining the experience needed to implement Article 8(j) effectively. In fact, CBD Parties should ask the TRIPs Council to consider going in the other direction, and expanding the scope of discretion under Article 27.3(b) to include patenting of microorganisms.

The participants in this workshop should be aware that maintaining flexibility to implement Article 8(j) is only one of several powerful arguments for avoiding expansion of patenting requirements under TRIPs. First, the scope of biotechnology patents in countries such

as the United States that are furthest along the road of patent expansion is frequently too broad, which could actually stifle, rather than stimulate, productive innovation. Concern about overboard patent claims is growing in the US itself (e.g. Eisenberg 1992, 1994). Even US industry groups have opposed some of the farthest extensions of patent rights sought in recent patent applications (Eisenberg 1992.) This suggests that the rest of the world is better off taking a Wait-and-see approach in which they can learn from the US experience, rather than rushing into a decision whose benefits are unproven.

Second, CBD Parties may wish to avoid expansion of IPRs in order to limit the flow of private investment into biotechnology, until they have a proper regulatory framework in place to control its environmental impacts. This would be consistent with the CBD's precautionary approach and its requirement that Parties protect against environmental impacts of genetically modified organisms and maintain economic incentives for conservation. If investment flowed too quickly into this industry, there would be a vested interest against regulation and in favor of externalizing environmental costs so that society as a whole, rather than the producers of biotechnology, takes on the risks. By definition, IPRs are designed to encourage private sector investment in technological development. Hence, avoiding the extension of IPRs to modified organisms remains a reasonable policy choice for countries until an effective biosafety protocol is negotiated and enters into force, and national regulations and institutions are in place at the national level.

Third, countries should clarify that governments maintain the power to regulate the use of IPR so as to ensure that rights holders do not abuse their market power through anti-competitive actions such as tie-in arrangements. The WTO may wish to define the types of measures needed to control anti-competitive abuses. The overbroad patent claims in biotechnology, and the continued blurring of the lines between invention and discovery in that sector, intensify the risk of anti-competitive impacts. Until there is more clarity, a country would be acting reasonably by avoiding extension of patenting to cover modified organisms.

Fourth, the WTO should not raise TRIPs standards while major trading nations are still applying unilateral pressure to force trading partners not only to meet TRIPs standards but to go beyond them. This is a serious problem that disturbs the balance of tradeoffs which persuaded developing countries to sign the Uruguay Round agreements. For instance, the US has threatened Argentina with trade sanctions on the ground that Argentina's protection of IPRs is not strong enough. Yet some of the US demands sought to force Argentina to implement *stronger* IPR protections than TRIPs requires. For instance, the US complained that Argentina's new patent law delayed extension of patents to pharmaceuticals until 2000, although developing countries do not have to phase in patent protection of new product types under TRIPs until a total of 10 years after TRIPs entered into force, well after the year 2000.

Finally, life patenting raises a number of other environmental, social and economic issues (UNEP 1996b), as well as significant ethical issues for many people in many countries. Fuller public consideration is needed of the complex issues before the WTO adopts a blanket rule.

## **2. Explore the Development of Geographical Indications or Trademarks for Products**

### **of Indigenous and Local Communities= Traditional Knowledge.**

Geographical indications and trademarks, or *sui generis* analogies, could be valuable tools for indigenous and local communities seeking to gain economic benefits from their traditional knowledge, or seeking to prevent its objectionable commercial use by outsiders. To date, debate on IPRs and biodiversity has focused on patents and plant breeders' rights, but the potential value of geographical indications and trademarks warrants much greater attention.

We suggest that representatives of indigenous peoples and local communities explore the value of these mechanisms. WIPO and UNDP, in consultation with the CBD Secretariat and other relevant organizations, should support collaboration between indigenous groups whose products could benefit from the use of geographical indications or trademarks, indigenous groups that have already developed related mechanisms, and experts from well-established systems of geographical indications in industrialized countries. The first step should probably be a survey to identify indigenous communities with products having market potential and an interest in using marks of origin to manage the market. The next step should probably be one or more workshops bringing together the above-mentioned three sets of players.

The TRIPs Agreement requires WTO Members to provide for protection of geographical indications and trademarks. The creation of systems of geographical indications or the support of community efforts to use trademarks could bring economic rewards to communities seeking to market products based upon sustainable traditional production practices. In addition, geographical indications and trademarks benefit consumers by providing them with reliable information and assurances of authenticity (Heald 1996, p. 655). They also respond to certain indigenous concerns more effectively than do other IPRs. In particular, rights to control trademarks and geographic indications can be maintained in perpetuity, and they do not confer a monopoly right over the use of certain information, but simply limit the class of people who can use a certain symbol.

This discussion emphasizes geographic indications, because they have certain additional virtues. They are based upon collective traditions and a collective decision-making process; they protect and reward traditions while allowing evolution; they emphasize the relationships between human cultures and their local land and environment; and they are not freely transferable from one owner to another; and they can be maintained as long as the collective tradition is maintained.

Geographical indications are defined under the TRIPs Agreement as indications which identify a good as originating in the territory of a [WTO] Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin (Article 22). WTO Members must prohibit registration of trademarks that are misleading regarding geographical origin, and must provide legal procedures for interested parties to prevent competitors from placing designations on their products that mislead the public about their geographical origin (Ibid.) The TRIPs Agreement provides for additional protection of geographical indications for wine and spirits (Article 23). Obligations regarding geographical indications are subject to a number of exceptions (Article 24).

Trademarks are also protected under the TRIPs Agreement. A trademark is defined as A[any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark] (Article 15). WTO Members shall provide for registration of trademarks. The owner of a registered trademark shall have the exclusive right to prevent third parties, without the owner's consent, from using similar signs for identical or similar goods for which the trademark is registered, where confusion is likely.

As noted above, geographical indications are different from patents and copyrights in that they are not specifically designed to reward innovation. Rather, they reward producers that are situated in a certain region and that follow production practices associated with that region and its culture, customs and communities. They are designed to reward good will and reputation created or built up by a group of producers over many years, and in some cases over centuries. In this sense, they can operate to maintain traditions and conserve traditional knowledge and practices.

Geographical indications lend themselves better to communal organization than do other IPRs. A producer qualifies to use a geographical indication according to its location and method of production. It is immaterial whether the producer is an individual, family, partnership, corporation, voluntary association or municipal corporation. Typically, the producers based in the relevant region work cooperatively to establish, maintain and enforce guidelines for production of the good subject to the geographical indication (Berárd and Marchenay 1996).

Geographical indications also accord with the emphasis that indigenous communities typically place upon their traditional ways of life including their relationship with their ancestral lands, waters and living ecosystems. As one expert on the French AOC system has explained:

An appellation of origin goes much further than a simple indication of . . . where a product is obtained or produced. [It also refers to] the further effects wrought upon a product by natural factors specific to the locality[,] such as micro-climate, soil formation, and so on[,] and also by specific human factors that pertain to the product[,] such as vinification procedure, pruning methods, maturation, and so on. The notion involves the interaction between these natural and human factors, specific and peculiar to the locality, which produces the distinctive quality or character of [that region's] product. (Agostini 1992, quoted in Brown 1994, p. 472-73).

As a general matter, it has been argued that developing countries may find it in their interest to use geographical indications as a tool to help develop and maintain both domestic and export markets for distinctive goods originating in their territory (Brown 1994). In fact, some developing countries are doing precisely this in current talks in the TRIPs Council (one example is Mexico, regarding tequila).

While geographical indications are categorized as a type of intellectual property under the TRIPs Agreement, they are more responsive to certain indigenous concerns than are patents, trademarks and copyrights. Many indigenous representatives emphasize that their cultural heritage is inalienable, not to be freely bought or sold. Similarly, a geographical indication such as an AOC lacks the typical private-property characteristic of being freely transferable. For

instance, if an owner of a vineyard and winery qualified to use an AOC for the Medoc region of Bordeaux sells the business and land to another, the buyer will not be allowed to use the AOC without maintaining the required practices. The AOC can never be transferred outside the Medoc region. In addition, a producer that qualifies for an AOC does not thereby gain an unmitigated right to use it indefinitely. If the producer's practices fall below the defined standards, it loses the right to use the AOC (Lorvellec 1996).

One first step should be for relevant international organizations to work with indigenous and local representatives to survey consumer groups and industry regarding market demand for various types of indigenous products from various regions. An essential criterion for the utility of a geographical indication or trademark for a product is whether there is a significant market for that product. Also relevant is the degree of threat of unauthorized imitations. Control of marks can be useful not only where the community seeks to market its products and deter unfair competition, but also where the community opposes commercialization of its culture and seeks to block marketing of unauthorized products.

Another initial step should be to bring together representatives of communities whose products have significant market potential (identified through the survey above) with experts from (1) some of the principal national or regional systems of geographical indications, and (2) some of the indigenous systems for controlling marks to indicate authenticity of indigenous products produced through traditional methods (see box). Through a workshop or conference, these groups can collaborate to identify principles for systems for using geographical indications that is workable for indigenous and local communities. They can also explore what kinds of regional or international structures may be needed to support such systems, keeping in mind models or options such as the Lisbon Agreement for the Protection of Appellations of Origin or the talks underway in the TRIPs Council regarding a system within WTO for international registration. WIPO and UNDP, in consultation with other relevant organizations such as WTO, would appear to be appropriate international organizations to take the lead on these tasks.

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### Indigenous Control of Designation of Origin in Pueblo Communities

One example of indigenous peoples' use of identification of origin as a tool to protect cultural forms and their use comes from the southwestern region of the United States. There, artisans of several native American tribes earn as much as US \$800 million annually from commercial sales of arts and crafts. For instance, the distinctive styles of Pueblo pottery, silver jewelry, and other items such as drums are well known. Styles and designs are considered a cultural heritage; in Zuni, a design may be the property of a certain family and no person outside that family has the right to use it. These indigenous communities were concerned that non-indigenous producers were using inauthentic methods to produce similar products that they passed off as indigenous traditional goods. In response, the state of New Mexico enacted the Indian Arts and Crafts Protection Law. The law requires retailers of native arts and crafts to assess whether goods are produced by indigenous persons by hand using natural materials. Only if a good passes this test can it be labeled as an authentic, Indian, hand made piece. Controversy continues because the law does not address whether goods are produced through traditional methods. Although this example is unrelated to biodiversity, it offers significant lessons for indigenous control of traditional knowledge. (Source for this example: Pinel and Evans 1994.)

### Geographical Indications to Reward Traditional Production in France

Local products (*produits de terroir*) occupy a special niche in the present agricultural and foodstuffs sector of countries of southern Europe, including France, Spain, Italy and Portugal. These products derive their value from a combination of environmental factors with cultural factors, in particular the traditional, collectively maintained techniques for production. France has developed a particularly well-developed system of geographical indications for assuring the authenticity of such products through Appellations d'Origine Contrôlée (AOC). There are systems of AOCs for wines (including 400 designations) cheeses (32) and spirits, and AOCs apply to some types of other products -- such as walnuts or poultry -- as well.

The relevant law provides that the geographic name that constitutes the appellation of origin or any other similar name may not be used for any similar product ... or for any other product or service as long as such a use is capable of altering or weakening the distinctiveness of the appellation of origin (quoted in Lorvellec 1996, p.68). While these controls are enforced at the national level -- and to a lesser extent internationally through TRIPs -- the regional producers themselves establish the rules of production through collective bodies which they control. While the production methods can evolve over time, there is a strong emphasis on tradition, with roots that are often centuries old. (Source for this example: Bérard and Marchenay 1996, except where otherwise indicated.)

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### 3. Support Establishment National and International Registries of Traditional Knowledge

There have been a number of proposals for the creation of national, regional or international registries of traditional knowledge. In consultation with indigenous and local communities, the SBSTTA should review the feasibility and implications of establishing such registries, supporting and building upon initiatives of NGOs to date (such as efforts underway in India) and scientific experience with similar databases as well as expertise of relevant bodies including WIPO, UNESCO, FAO and UNDP. Parties should support efforts at the national and regional levels. Such registries could support benefit sharing among industry and indigenous and local communities. They could support IPR-related measures such as strengthening traditional

knowledge=s status as prior art, enabling Adefensive publication,≡ or establishing sui generis IPRs for communities.

However, communities will need to assess the risks of disclosing knowledge, identify measures for controlling access and gaining a share of the benefits, and determine how to design such registries in accordance with their concerns. These IPRs-related issues must be addressed in any study that is undertaken.

#### **4. Consider Requiring Patent Applicants to Disclose Traditional Knowledge and Origin of Genetic Resources Used in the Invention**

As noted by the Secretariat in a background paper for COP III, a number of commentators have proposed the requirement or encouragement of Adisclosure in patent applications of the country and community of origin for genetic resources and informal knowledge used to develop the invention (UNEP 1996a, & 38, citing Gadgil and Devasia 1995, Hendrickx et al. 1994, Gollin 1993; a detailed proposal is found in Yamin 1995). The disclosure might also include Athe certification of prior approval of the use by the source country or community≡ (UNEP 1996a, Annex I, citing Gollin 1993; Hendrickx et al. 1994; see also Tobin 1997).

While disclosure of genetic resources goes to Article 15 of the CBD,<sup>5</sup> many plant genetic resources are developed through manipulation, experimentation and conservation by indigenous or local communities over many generations, indicating that they in fact embody Aknowledge, innovations and practices≡ of these communities and warrant protection under Article 8(j).

In support of the view that this measure is feasible,

[t]here is evidence suggesting that such a step would in large part involve simply regularising a practice that is already common in filing patent applications. One recent study reviewed over five hundred patent applications in which the invention involved the use of biological materials, such as materials derived from plants or animals; most were in the pharmaceutical field, with some in other fields such as cosmetics and pesticides (Sukhwani 1996 and pers. comm.) The applications reviewed came from a number of jurisdictions, including France, Germany, UK, Spain, the USA, and the European Patent

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<sup>5</sup> A related proposal was advanced in July 1997 by the European Parliament, which amended a proposed directive on biotechnology inventions to require that applications for patents based upon material of human, plant or animal origin must state that the materials were obtained in a manner consistent with the laws of the country of origin and, for human materials, with the consent of the person from whom they were taken. This amendment was, however, rejected by the European Commission on the ground that it exceeded the European Union=s obligations under the CBD.

Office. Of the applications involving plants, the country of origin was invariably mentioned unless the plant was widely distributed or well known (such as the lemon or rosemary). A number of applications also mentioned indigenous or traditional uses as prior art.

(UNEP 1996a, Annex I).

Nevertheless, the proposal needs further study before it can be implemented.<sup>6</sup> In particular, key terms such as indigenous and local communities must be more clearly defined. (For instance, are only local communities in developing countries covered? What about traditional knowledge that remains in regions of developed countries or countries with economies in transition?) There have been proposals that the requirement of disclosure might be enforced by making it a condition of approval of an application, and providing for the revocation of a patent where a disclosure was shown to be fraudulent. Such a strong enforcement measure is impractical without a clear definition of key terms.

Countries should place the patent disclosure idea on the agenda for discussion in the TRIPs 1999 review of Article 27.3(b). This issue should be addressed within the TRIPs Council, as the protection of traditional knowledge and genetic resources rights must be integrated with trade regulations, especially implementation of the TRIPs Agreement, to be effective (Cottier 1996). The TRIPs Council should consider whether to incorporate the patent disclosure concept into an interpretation of the Agreement to be recommended to the WTO Governing Council.

WIPO, the WTO Secretariat, and the CBD Secretariat should cooperate on a study of specific options, and costs and benefits, of requiring patent applicants to disclose the country and community of origin of genetic resources and traditional knowledge used to develop an invention. The study should also consider how to define more clearly the role of traditional knowledge as prior art, in light of cases such as the recently revoked US patent on turmeric. It would be useful to review the extent to which the proposal might be implemented by a clarification or amendment of the requirements for explanation of Abackground art≡ in patent applications under the European Patent Convention. The study should involve consultation with interested parties, in particular indigenous peoples.

## **5. Conduct Case Studies on the Impact of IPRs on Control and Sharing of Benefits from Specific Uses of Traditional Knowledge and Associated Genetic Resources**

Discussions of the impact of IPRs on the sharing of benefits from the commercial use of traditional knowledge and associated genetic resources could benefit from more fact-based analysis of specific cases. Intensive studies of specific cases would help Parties and stakeholders identify more precisely the actual role of IPRs. Thus, in Decision III/17, the COP encouraged

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<sup>6</sup> There should also be study of the relationship of such a disclosure requirement with the TRIPs Agreement. Article 29 describes AConditions on Patent Applicants.≡ Members Ashall≡ require that applicants disclose Athe invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.≡ Members also Amay≡ require disclosure of the best mode for carrying out the invention, and information regarding foreign applications.

Governments, and relevant international and regional organizations, to conduct and communicate to the Executive Secretary, for dissemination through means such as the clearing-house mechanism, case studies of the impacts of intellectual property rights on the achievement of the Convention=s objectives, including relationships between intellectual property rights and the knowledge, practices and innovations of indigenous and local communities embodying traditional lifestyles relevant for the conservation of biological diversity.

These studies should be carried out in consultation with stakeholders, in particular indigenous peoples, and should draw on relevant expertise, including intellectual property law and scientific disciplines.

What creates the inequity in the use of traditional knowledge of Indigenous and local communities in developing patented inventions? The question is best answered through analysis of case studies, but as a preliminary matter several avenues of analysis are clearly relevant.

First, specific cases will reveal specific instances of misappropriation or questionable distribution of benefits. While analysis may reveal that broad assertions (such as the notion that the neem tree itself has been patented) are inaccurate, a finer-grained review may well reveal specific problems. Examples are the reported European Patent Office revocation of a particular neem-related patent, or the US PTO=s revocation of a patent on the use of turmeric to heal wounds (see box).

Second, in the value systems of many indigenous cultures the use of traditional knowledge for private monetary gain is inherently objectionable. For example, knowledge of medicinal plants may be considered a sacred gift, which might be shared freely with the world, but should not be exclusively controlled for sale at a profit. In contrast, today=s increasingly privatized economies rely upon a different theory. They tend to look to the public sector for (a diminishing amount of) basic research, and then seek to create incentives -- principally IPR -- for the private sector to develop basic research findings into useful products that consumers will pay for. It remains to be seen whether this is a good strategy for maximizing public welfare over the long term in key sectors like agriculture, medicine and food processing.

### The Turmeric Patent

In 1995, the US Patent and Trademark Office granted patent number 5401504 for the use of powdered turmeric to speed the healing of wounds. The patent was held by the University of Mississippi Medical Center. The Council of Scientific and Industrial Research of India filed a challenge to the patent in October 1996. The CIR argued that the patent failed the legal requirement of novelty, because the use of turmeric to heal wounds was a part of the prior art. CIR presented publications from India indicating that turmeric was a well known folk remedy in India. In August 1997, the US PTO rejected the patent. More research is needed to determine what other patents may actually be part of the prior art of traditional knowledge. Equally important, the case demonstrates the importance of documenting traditional knowledge -- although access to the information must be structured in a way that ensures benefit sharing. Finally, the doctrine of Aprior art≡ and the practice of reviewing it should be adjusted to reduce the chance of non-novel patents like turmeric. (*Sources: Kumar 1997; US PTO Patent No. 5401504*).

### Patents and the Neem Tree

For hundreds of years, at least, rural people in India have used various parts of the neem tree for a variety of uses ranging from toothpaste to pesticide. A number of corporations, both Indian and foreign, have taken patents on various inventions employing materials derived from the neem tree in uses that often relate to traditional uses of neem (Gupta 1996). For instance, a US company, W.R. Grace, has patented a number of inventions relating to the neem tree. One patent taken out by W R Grace and Co. in the US in 1990 covered a technique for improving the storage stability of neem seed extracts containing azadirachtin (US Patent No 4946681). Another obtained by the same company in 1994 covered a storage stable insecticidal composition including a neem seed which had increased stability (US Patent No 5124349). The increase in stability of this preparation over traditional neem preparations presumably makes it more convenient for commercial distribution as well as on-farm use. Many of these patented inventions are different from traditional uses of neem. They apply only to the specified inventions, without interfering with Indian farmers= traditional practices. Contrary to some public declarations, there is no patent on the neem tree (Gupta 1996). The Athe seed itself -- being a product of nature -- is not patentable unless considerably modified≡ (Ibid.)

True, the holders of a number of patents relating to neem drew upon knowledge of traditional practices in India. But the inventor also doubtless made use of many Western practices that are in the public domain -- such as techniques for chemical analysis, preparation of suspensions, and so on -- either because patents had already expired or because they involved scientific knowledge that was not patentable. In other words, traditional and Western technologies in the public domain were exploited equally, without compensating those who originated them or their descendants.

However, it is possible that some of the patents were not truly novel because in fact they not only drew upon but consisted of traditional knowledge. The range of neem-related patents should be examined and compared. As the turmeric example indicates, some of them may actually constitute prior art in the form of traditional knowledge, which should not have been patented. Indeed, the European Patent Office has reportedly revoked one patent held by W.R. Grace on this ground (Warrier 1997).

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Third, while IPR systems may treat similar kinds of indigenous and Western knowledge similarly in most cases, the systems operate as a whole to discriminate in effect against informal knowledge-holders as a group. For example, informal knowledge holders or creators have very limited access to legal and technical expertise needed to navigate the patent system. Consistent with this, corporations or individuals from developed countries own the

large majority of patents world-wide. Developing countries account for only a small fraction of patents issued, and inhabitants of rural communities, especially indigenous peoples, are generally the least advantaged social groups in developing countries. As a result, industrial patents on products derived from traditional knowledge generally pit a highly privileged group against one of the least privileged.

**6. Evaluate Other IPR Concepts -- Such as Authors= Moral Rights -- in Conventional and Indigenous IPRs-Systems, as Models for Protecting Traditional Knowledge**

Research in this area should look in creative ways to models that could be adapted for community purposes, drawing on indigenous systems of IPRs as well as conventional systems. For instance, one intellectual property concept that has received inadequate attention to date is the so-called authors= moral right -- the right to be acknowledged as the source of a work and to protect its integrity -- which is recognized under the Berne Convention for the Protection of Literary and Artistic Works. This concept could be a model for IPR measures that would enable communities to require acknowledgment of the contribution of their traditional knowledge and associated resources to inventions and scientific research (cf. Berryman 1994). As discussed, it has the particular attraction of being designed to protect non-market values.

Related concepts are found in the UNESCO/WIPO Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions. In addition, the suggestion by some members of the Crucible Group that the concept of Adefensive publication≡ of inventions could reduce the risk of monopoly control of plant genetic resources deserves consideration in the analogous area of traditional knowledge (see Crucible Group 1994, p. 78-79).

We suggest that WIPO and UNESCO collaborate with the CBD Secretariat to develop recommendations on options for protecting traditional knowledge under Article 8(j) through the application or adaptation of such mechanisms, consulting with indigenous and local communities and taking into account the need for IPRs to strike a balance among various social goals, including not only the goals of Article 8(j) and the CBD but also freedom of expression, freedom of exchange of information, and maintenance of a rich public domain on which future artists, scholars and scientists can draw.

**7. Designate These Activities as Funding Priorities for the Financing Mechanism**

As part of its work on economic incentives and implementation of Article 8(j), the CBD financing mechanism should support implementation of the activities described under Recommendations 1-6 above. The GEF should local and national-level and initiatives to implement, adapt or supplement existing IPR systems through:

- ! experimentation with *sui generis* systems
- ! use or adaptation of geographical indications or trademarks
- ! establishment of national and international registries of traditional knowledge, taking into account the issues around control of access and benefit sharing
- ! exploration of the requirement of patent application disclosures of origin of traditional knowledge and genetic resources
- ! conducting case studies on specific impacts of IPR on benefit sharing

!      exploring other aspects of existing IPR -- such as the author=s moral right -- for concepts useful for traditional knowledge.

The GEF should also support international and regional collaboration to develop the analytical and factual base for progress on these recommendations, such as the international workshop on geographical indications proposed in Recommendation 2 above.

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## Request for Comments

This paper is a draft circulated for discussion and comments. It is intended to help participants in the Madrid workshop identify specific steps to implement the Convention on Biological Diversity's provisions on protection of indigenous and local knowledge, innovations and practices related to biodiversity. Please send comments to:

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