

MEMO

To: Michelle Swenarchuk
From: Nozomi Nakano
Date: March 26, 2004
Subject: Assignment of Environmental Law Practicum [Final version]

The Relationship between the Convention on Biological Diversity and the TRIPS Agreement

You have asked me to conduct research on the relationship between the Convention on Biological Diversity (CBD) and the TRIPS Agreement of the WTO, with particular emphasis on the traditional knowledge of indigenous people. This memo consists of three parts: [1] background of the issue, [2] overview of discussions in different fora, and [3] literature review.

I. BACKGROUND OF THE ISSUE

“Bio-piracy”

The loss of biodiversity is one of the most serious environmental problems we face today, and it is rapidly becoming a major economic concern related to issues of intellectual property. The proposition that biological diversity should be considered the Common Heritage of Mankind was rejected at an early stage in the inter-governmental negotiations to draft the CBD, because most components of biological diversity are situated in areas of national jurisdiction. Instead, the CBD reaffirms the sovereignty of states over their own biological resources, and their sovereign right to exploit these resources pursuant to their own environmental policies. However, this emphasis on national sovereignty is balanced by duties deriving from both sovereignty itself and biological diversity as a common concern to the entire international community.

A change in the legal status of biological resources, from Common Heritage to national patrimony, prompted a “green rush”. Companies and researchers of industrialized countries all headed to areas having abundant biological resources, mainly developing countries, to gather biogenetic resources and associated traditional knowledge that had been preserved by indigenous and local communities, eventually obtaining intellectual property rights, such as patents on products developed by acquiring and utilizing these resources and knowledge. However, such genetic resources and associated traditional knowledge have often been acquired without authorization of the holder and without compensation or sharing of profits received. Under such a situation, environmental and indigenous human rights NGOs and developing countries have denounced “take-and-run” types of activities by companies from industrialized nations, coining the terms “bio-piracy”¹ and “bio-colonialism” which refer to

¹ The ETC group web site offers abundant information referring to cases where they have identified “bio-piracy” and where indigenous people rights over their knowledge and countries sovereign rights over their biological and genetic resources have been affected.
See, <http://www.etcgroup.org/search.asp?theme=1>.

piracy of genetic resources.

As a result of such concerns, Article 15 of the CBD on access to genetic resources recognizes that, “the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.” On the basis of Article 15, resource-rich countries, especially Latin American, Asian and African countries have been vigorously legislating national laws regulating access to genetic resources within their jurisdiction and promoting equitable benefit-sharing.

The Relevant Provisions of the CBD and the TRIPS Agreement

CBD

The objectives of the CBD are: (1) to conserve biological diversity, (2) to promote the sustainable use of its components, (3) to achieve fair and equitable sharing of the benefits arising out of the utilization of genetic resources. These objectives find expression in the provisions of the CBD, many of which are affected, directly or indirectly, by IPRs. The key provisions in the CBD relating to IPRs are in Article 8, 16, 17 and 18, and more indirectly, in Article 15.

IPR-related provisions of the CBD (emphases added)

Article	Theme
16	Access to and transfer of technology
16	Access to and transfer of technology

'Access to and transfer of technology referred... to developing countries shall be provided and/or facilitated under fair and most favourable terms, including on occasional and preferential terms where mutually agreed, and where necessary, in accordance with the financial mechanism established by [the CBD]. In the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms which recognize and are consistent with the adequate and effective protection of intellectual property rights.' (Para.2)

'Each contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources, on mutually agreed terms, including technology protected by patents and other intellectual property rights, when

		<i>necessary, through the provisions of article 20 and 21 [ie financial resources and the financial mechanism] and in accordance with international law...'</i> (Para.3)
16	Access to and transfer of technology	<i>'The Contracting Parties, <u>recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives.</u></i> ' (Para.5)
8	<i>in situ</i> conservation	<i>'Each Contracting Party shall, as far as possible and as appropriate... <u>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.</u></i> ' (Para.j)
18	Technical and scientific cooperation	<i>'The Contracting Parties shall... encourage and develop methods of cooperation for the development and use of technologies, <u>including indigenous and traditional technologies</u>, in pursuance of the objectives of this Convention.'</i> (Para.4)
17	Exchange of information	<i>'The Contracting Parties shall <u>facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries.</u></i> ' (Para.1)
17	Exchange of information	<i>'... exchange of information shall include exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, <u>specialized knowledge, indigenous and traditional knowledge as such and in combination with [biotechnology]</u>. It shall also, where feasible, include <u>repatriation of information.</u></i> ' (Para.2)

The TRIPS Agreement

The TRIPS Agreement requires all parties to meet certain minimum standards for protecting IPRs, defined as including copyrights, patents, plant breeder's rights (PBRs), industrial designs, geographic designations and trade secrets. The Agreement also requires parties to provide fair, effective judicial procedures and remedies for rights-holders

claiming infringement. It provides developing countries with a five-year grace period to phase in most of the Agreement's requirements, and developing countries will have an additional ten years.

The TRIPS Agreement requires Members to offer patent protection for inventions in all areas of technology, whether products or processes, that are new, involve an inventive step, and are capable of industrial application (Article 27.1). This requirement, which is cast in broad terms, is subject to some important exceptions, which may be relevant to the successful implementation of the objectives of the CBD. First, Members may exclude inventions from patentability where it is necessary to "protect public order or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment" (Article 27.2). Second, while members are required to grant patents over micro-organisms as well as non-biological and essentially biological processes for the production of plants and animals, they are not required to grant patents over plants or animals (Article 27.3(b)). Third, Members may provide limited exceptions to the exclusive rights conferred by patents, subject to certain qualifications (Article 30). Finally, Members may permit use of the patented invention by third parties without the authorization of the patent owner in certain circumstances (Article 31).

Article 27.3 (b), biodiversity and traditional knowledge

The relationship between IPRs and the provisions of the TRIPS Agreement and the CBD gives rise to a range of issues. Many policy makers and members of NGOs are concerned that the TRIPS Agreement promotes private commercial interests at the expense of other important public policy objectives, such as those contained in the CBD. Specifically the TRIPS Agreement is creating serious challenges to the successful implementation of the CBD, including the following four issues:²

- The TRIPS Agreement may affect access to and the fair and equitable sharing of benefits arising from the utilization of genetic resources
- The TRIPS Agreement may affect preservation of and respect for the knowledge, innovations, and practices of indigenous and local communities
- The TRIPS Agreement may affect the transfer of technology
- The TRIPS Agreement may affect the conservation and sustainable use of biological diversity

II. OVERVIEW OF DISCUSSIONS IN DIFFERENT FORA

The relationship between genetic resources, traditional knowledge and intellectual property rights is among the most controversial agenda items in the negotiations of several international organizations. Currently, there are four main inter-governmental organizations dealing with the issues concerning the CBD and TRIPS Agreement: the Convention on Biological Diversity, the UN Food and Agriculture Organization (FAO), the World Trade Organization (WTO), and the World Intellectual Property Organization (WIPO).

² WWF International & CIEL, Joint Discussion Paper, *Biodiversity & Intellectual Property Rights: Reviewing Intellectual Property Rights in Light of the Objectives of the Convention on Biological Diversity*, (Gland: WWF International, 2001).

CBD

The Conference of the Parties (COP) has established two working groups with very precise mandates regarding fundamental aspects of access to genetic resources and TK. These groups are the Working Group on Article 8(j) and the Working Group on Access to Genetic Resources and Benefit-Sharing (WGABS). These two groups have advanced in their discussions and have presented many useful studies. The conclusions and recommendations of these two groups will be of great importance for achieving tangible results in the work programme of the WTO. One example is *Bonn Guidelines on Access to Genetic resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization* (“Bonn Guideline”) adopted at the COP6 in 2002. These guidelines clarify and develop most of the content of Article 15 of the CBD.

In relation to intellectual property (IP), the Bonn Guideline notes that: the work of WIPO on IP and access and benefit-sharing should be taken into account; states that Contracting Parties should take appropriate legal, administrative, or policy measures, as appropriate, to support compliance with prior informed consent of the Contracting Party providing such resources, and mutually agreed terms on which access was granted, including, *inter alia*, measures to encourage the disclosure of the country of origin of the genetic resources and of the origin of traditional knowledge, innovations and practices of indigenous and local communities in applications for IPRs; and states that material transfer agreements should clarify whether IPRs may be sought and if so under what conditions.

Additionally, the relationship between the CBD and IPRs has been considered by the CBD COP in a number of decisions. The COP called for cooperation with the WTO on IPR-related issues (decision III/15); noted the need for future work to develop a common appreciation of the relationship between intellectual property rights and the relevant provisions of the TRIPS Agreement and CBD (decision III/17); and stressed “the need to ensure consistency in implementing the Convention on Biological Diversity and the World Trade Organization agreements, including the Agreement on Trade-Related Aspects of Intellectual Property Rights” (decision IV/15). It has also invited the WTO to take into account relevant provisions of the Convention, their interrelationship (decision V/26).

FAO

It is important to note that intellectual property issues also arise in the discussion of plant genetic resources for food and agriculture within the FAO. The 1983 International Undertaking (IU) was the first comprehensive international agreement to address plant genetic resources for food and agriculture. The aim of the IU is to ensure the conservation, sustainable use and continued free flow of a diversity of germplasm for crops of major importance, the basis of world food security. In 1992, the Agenda 21 (Chapter 14) called for the strengthening of the FAO Global System on Plant Genetic Resources, and its adjustment in line with the CBD. As a result of considerable debate on the IU in harmony with the CBD, *the International Treaty on Plant Genetic Resources for Food and Agriculture* (ITPGRFA) was adopted by the FAO Conference on 3 November 2001. It will come into force once it has been ratified by 40 states. ITPGRFA seeks to establish an access

and benefit-sharing regime for plant genetic resources for food and agriculture that is in harmony with the CBD by:

- Facilitating access to 35 food and 29 feed crops, the so-called “Multilateral System”;
- Establishing a system of fair and equitable sharing of financial benefits resulting from the commercial use of the crops covered by the Multilateral System; and by,
- Recognizing and promoting Farmers’ Rights. For instance, the treaty preserves the right of farmers to save, use and exchange saved seed.

The CBD and the IU³

CBD	IU
<ul style="list-style-type: none"> • Sovereign Rights • Comparative Advantage • Right to Capture Benefits • Contributions of Indigenous and Local Communities • Technology Transfer • Financial Mechanism 	<ul style="list-style-type: none"> • Public Goods • Mutual Advantage • Right to Access Benefits • Farmer’s Rights • Technology Transfer • Financial Mechanism

The TRIPS and the IU

TRIPS	IU
<ul style="list-style-type: none"> • Limited Monopolization to encourage creativity • <i>Sui Generis</i> System for the Protection of Plant Varieties • Rights to Capture Benefits • Technology Transfer • Adam Smith’s ‘Invisible Hand’ 	<ul style="list-style-type: none"> • Public Goods to encourage diversity and limit entry barriers • Farmer’s Rights • Rights to Access Benefits • Technology Transfer • Financial Mechanism

WTO

Article 27.3 (b) is currently under review in the TRIPS Council, as required by the TRIPS Agreement.⁴

Before Doha

The review of Article 27.3 (b) began in 1999 as required by the TRIPS Agreement. The topics raised in the TRIPS Council’s discussions include:

- How to apply the existing TRIPS provisions on whether or not to patent plants and

³ Robert J. L. Lettington, “The International Undertaking on Plant Genetic Resources in the Context of TRIPS and the CBD”, *BRIDGES COMMENT*, July-August 2001, 5 (6), available at <http://www.ictsd.org>.

⁴ See, http://www.wto.org/English/tratop_e/trips_e/art27_3b_background_e.htm

- animals, and whether they need to be modified
- The meaning of effective protection for new plant varieties (i.e. alternatives to patenting such as the 1978 and 1991 versions of UPOV). This includes the question of allowing traditional farmers to continue to save and exchange seeds that they have harvested, and preventing anti-competitive practices which threaten developing countries' "food sovereignty"
- How to handle moral and ethical issues, e.g. to what extent invented life forms should be eligible for protection
- How to deal with traditional knowledge and genetic material, and the rights of the communities where these originate (including disclosing the source of genetic material, and benefit sharing when investors in one country have rights to inventions based on material obtained from another country)
- Whether there is a conflict between the TRIPS Agreement and the CBD.

The Doha Mandate

Paragraph 19 of the Doha declaration says that work in the TRIPS Council on the reviews (Article 27.3 (b) or the whole of the TRIPS Agreement under article 7.1) or any other implementation issue should also look at: the relationship between the TRIPS Agreement and the CBD; the protection of traditional knowledge and folklore; and other relevant new developments that member governments raise in the review of the TRIPS Agreement.

After Doha

Since then, the discussion in the TRIPS Council has gone into considerable detail with a number of ideas and proposals for dealing with these complex subjects:⁵

- A group of developing countries, including Bolivia, Brazil, Cuba, Ecuador, India, Peru, Thailand, Venezuela and Pakistan, renewed their efforts to speed up discussions on resolving potential conflicts between the TRIPS Agreement and the CBD (IP/C/W/403). This group develops earlier proposals on disclosure knowledge, "prior informed consent" for exploitation (a term used in the CBD), and equitable benefit sharing related to genetic material and TK.
- EU includes a proposal to examine a requirement that patent applicants disclose the origin of genetic material, with legal consequences outside of the scope of patent law (IP/C/W/383). Switzerland proposed an amendment to WIPO's Patent Cooperation Treaty so that domestic laws ask patent applicants to disclose the origins of genetic resources and TK (IP/C/W/400). In contrast, the US argued that there was no conflict between the TRIPS Agreement and the CBD and that the CBD should not be enforced through patent law.
- The African Group looks at possible areas of agreement and areas of divergence and includes a draft decision on TK designed to prevent "misappropriation"

⁵ See, http://www.wto.org/English/tratop_e/trips_e/art27_3b_background_e.htm; ICTSD, "TRIPS Council Discusses Biodiversity, Health in Informal Model", *BRIDGES*, Vol.8 No.9 10 March 2004, available at <http://www.ictsd.org/weekly/04-03-10/story1.htm>.

(IP/C/W/404). This group wants to outlaw patenting of all life forms (plants, animals, microorganisms) and wants *sui generis* protection for plant varieties to preserve farmer's rights to use and share harvested seeds.

WIPO

The WIPO Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore⁶ is discussing models for provisions in access contracts on intellectual property rights, the possibility of requirement for the disclosure of origin of biological resources in the draft of the Substantive Patent Law Treaty, and methods for defensive and positive *sui generis* protection of traditional knowledge. During its five sessions, Member States, including indigenous peoples representative organizations, have discussed legal, policy, economic and scientific aspects related to TK, including TK related case studies on TK protection, analysis of IPR principles, *sui generis* alternatives for TK protection, revision of national legislation and draft policies, among others. The Fifth session of the Intergovernmental Committee signified the end of the Committee's mandate, therefore forcing Member States to decide on the future existence and work of the Committee. Positions among members have been extremely varied ranging from the need to launch within WIPO negotiations for the development of an international *sui generis* regime for the protection of TK to stressing the need for the continued work in analyzing options and alternatives for TK protection.

III. LITERATURE REVIEW OF THE ISSUE

A number of literatures concerning the relationship between the CBD and the TRIPS Agreement discuss how to make synergies between the two agreements. However, literatures do not discuss in detail how to solve disputes relating to the CBD and the TRIPS. Below is a list of literatures dealing with the relationship between the CBD and the TRIPS.

Stilwell (2001)⁷ discusses the relationship of TRIPS Article 27.3 (b) to the conservation and sustainable use of genetic material under the CBD. He raises the following three concerns of conflicts between the CBD and TRIPS Agreement.

- *The CBD and the TRIPS Agreement have overlapping coverage and address similar issues.* The TRIPS establishes minimum standards for the protection and enforcement of intellectual property rights. The CBD includes a number of specific references to IPRs (Art.16.2 and 16.3). It also contains the more general statement that parties must ensure that intellectual property rights do not run counter to the objectives of the CBD (Art.16.5). Whereas the TRIPS establishes a general framework requiring the protection and enforcement of intellectual property rights, the CBD deals with intellectual property rights in the specific context of the conservation and sustainable use of biological diversity. In addition, both

⁶ <http://www.wipo.int/tk/en/index.html>

⁷ Matthew Stilwell, *Review of Article 27.3(B)*, (Geneva: CIEL, 2001).

agreements also deal in some way with the components of biological diversity. The CBD has as its fundamental goal the conservation and use of the components of biological diversity. The TRIPS Agreement, in turn, requires in Article 27.3(b) that some intellectual property protection be granted over some genetic resources.

- Language in the TRIPS Agreement and the CBD do not prevent or resolve conflicts. Article 22 of the CBD addresses the relationship between the CBD and certain other international conventions, and provides that “the provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.” It seems clear from this provision, that it was intended to address the relationship between the CBD and “existing” international agreements, and not with future agreements, which should be addressed under any specific provisions on conflict contained in those agreements, or according to principles of international law regarding the relationship between treaties. Indeed, the view that Article 22 does not define the relationship between the two agreements seems to have been accepted, at least implicitly, by the European Communities, which have stated that “neither treaty specifies that it is subject to the other. The CBD and the TRIPS Agreement do not expressly refer to each other.” Notably, the TRIPS Agreement does not contain any conflicts provisions relevant to the CBD.
- Principles of international law relating to a conflict of treaties. International law has two rules to be applied when the provisions of two agreements are in conflict. The “later in time” rule means that when the provisions of two agreements are mutually exclusive, the provisions of the later in time agreement prevail to the extent of the incompatibility. Another rule provides that more specific treaty prevails, even if it is earlier (the special law derogates from the general law). The general view is that this rule applies where there is a conflict of treaties on the same subject matter. To the extent that obligations in the CBD and the TRIPS are on the same subject matter- relating, for example, to the application of intellectual property rules to life-forms- and those in the former are more specialized than those in the latter, it may be argued that the most specific rules apply. In light of uncertainty about the application of rules about conflict of treaties, the approach of avoiding a legalistic view is to be preferred, and resolution of conflicts between the CBD and the TRIPS Agreement will likely only be resolved satisfactorily through a cooperative approach as suggested in the CBD itself in article 16.5.

Thomas (2002)⁸ addresses the question of “Is there a legal incompatibility between the CBD and the WTO?” and “How would a WTO dispute settlement panel and its appellate body rule if a government should claim that the exercise of IPRs is deleterious to its local agricultural biodiversity?” He points out that the fact that the two regimes are based on different conceptual premises and were negotiated independently may indeed give rise to such a claim. *The outcome of such a dispute remains highly uncertain until a case involving*

⁸ Urs P. Thomas, *The CBD, the WTO, and the FAO: The Emergence of Phytogenetic Governance*, Philippe G. Le Prestre ed., *Governing Global Biodiversity*, (London: Ashgate, 2002), at 177-205.

these different rights is brought before the Dispute Settlement Body (DSB) of the WTO and because the actual impacts of IPRs on biodiversity are difficult to evaluate and prove.

Eugui (2002)⁹ presents several areas where actual and potential conflicts can occur between the TRIPS Agreement and the CBD. He contends that these conflicts occur mainly as a consequence of the lack of recognition of CBD principles into the TRIPS Agreement. The most important areas of actual or potential conflict are the following:

- The TRIPS Agreement allows private rights to be granted over genetic resources that are subject to sovereign rights. As such, it is in practice subordinating public rights over genetic resources, recognized in the CBD, to the grant of private rights such as patents under the TRIPS Agreement. Instead, the TRIPS Agreement should explicitly recognize the public international law principle of State sovereignty over natural resources as reflected in the UN Charter;
- Article 27 of the TRIPS Agreement disregards the fact that genetic material or traditional knowledge can be used in an inventive process or be incorporated in an invention without prior informed consent and benefit sharing. In this sense, the TRIPS Agreement allows the granting of patents regardless of whether a particular invention uses or incorporates legally or illegally accessed (i.e. accessed without prior informed consent and benefit sharing) genetic material or associated traditional knowledge. National access laws are not sufficient enough to prevent situations where the genetic material has been illegally accessed or used without authorization in an inventive process or incorporated into an invention out of the national jurisdiction. Here, Article 27.3 (b) of the TRIPS Agreement has to be amended to require prior informed consent and the existence of fair and equitable benefit sharing agreements.
- Mechanisms to mandate the inclusion of prior informed consent and warranting benefits sharing are fundamental to achieve a cost-effective solution to illegal access of genetic resources and TK. The disclosure of the origin of the genetic material and associated TK will avoid initiation of expensive and numerous judicial actions to revoke patents that use or incorporate illegally acquired genetic material or associated TK. This type of solution will not be more burdensome than any other regular requirement or the ordinary disclosure of an invention. In a normal patent examination, a clear and sufficient disclosure of an invention can in many cases include the origin of the genetic resources as to permit a person skilled in the art to reproduce the invention. The disclosure of the origin has even been recently encouraged by the Bonn guidelines of the CBD. This type of mechanisms should be included in Article 27.3 (b) and 29 of the TRIPS Agreement.
- Article 27 of the TRIPS Agreement allows for the filing of patent applications over “inventions” that imply biological discoveries and genetic materials in their “*natural state*”. Cases of patent applications and specific claims over biological discoveries and naturally occurring genetic resources together with associated TK

⁹ David Vivas Eugui, *What agenda for the review of TRIPS?: A sustainable development perspective* (Geneva: CIEL, 2002), available at http://www.ciel.org/Publications/AgendaTrips_Summer02.pdf.

(both covered and protected by CBD) have been presented in many countries. Among these cases we can identify the neem tree¹⁰ and the ayahuasca¹¹. This situation has not only generated public condemnation but also a perception that IPRs are being used to circumvent CBD obligations. A clear understanding that patents cannot be granted over naturally occurring genetic resources should be included in the TRIPS Agreement.

With regard to the protection of TK, Eugui also suggests that “a possible way of rebalancing the TRIPS Agreement and protecting all types of innovation systems would be an amendment of Article 27.3(b) of the TRIPS Agreement requiring WTO members to provide for the protection of TK and folklore by an effective *sui generis* system. Such a protection should be designed in light of the CBD, the ITPGRFA, and existing regional and national regulatory frameworks.”

To achieve success in amending the TRIPS Agreement in light of the objectives and principles of the CBD, Eugui proposed that it is necessary to develop a common agenda on CBD issues. A possible list of issues for a common reviewing agenda dealing with the relation between of the CBD and the TRIPS Agreement and the Protection of TK could include:

- Recognition of sovereignty rights over genetic resources
- Incorporation of principles of prior informed consent (PIC) and benefit sharing in the TRIPS
- Need for disclosure of the origins of genetic resources and TK in the patent description
- Recognition of IPRs registration as a commercial use of genetic resources or TK
- No patentability of substances and living organisms existing in nature
- Recognition of flexibility in the TRIPS Agreement for establishing national enforcement measures to implement the CBD
- Insert an obligation to implement national legislation to protect the TK in accordance to Article 8(j) of the CBD
- Include a confidentiality obligation of TK and protection against unfair competition
- Identification of minimum standards for an effective *sui generis* system for the protection of TK

¹⁰ A patent was granted by the European patent Office to the US Department of Agriculture and the corporation W.R.Grace over the process of extracting oil from the Neem tree, which has been used for generations by communities in India. After challenge by organizations representing local communities, this patent was overturned in May 2000. Although overturned in Europe, many other neem-related patents remain unchallenged in the U.S.

¹¹ A patent was granted by the US Patent and Trademark Office to a US citizen over a variety of the Ayahuasca vine, which has been used for generations by indigenous people in the Amazon for ceremonial and healing purposes. The patent was overturned in 1999 for lacking novelty.

Joint discussion Paper¹² presented by WWF and CIEL in 2001 provides recommendations to overcome challenges that the TRIPS Agreement faces to the successful implementation of the CBD. Below are steps that the Parties to the CBD and Members of the WTO should take at the respective institutions, and at the national level, to ensure that the CBD and TRIPS Agreements work in a mutually supportive way with respect to the four areas of access and benefit sharing, respect for and the preservation of TK, technology transfer and the conservation and sustainable use of biological diversity.

CBD Parties should:

- Insist on permanent observer status for the CBD in the Council for TRIPS.
- Develop strong guidelines for access and benefit sharing, including minimum binding requirements for implementation in national law.
- Encourage and assist the CBD Secretariat to compile further case studies and empirical evidence on the relationship between IPRs, the TRIPS Agreement and the CBD, particularly focusing on the relationship of IPRs and access and benefit sharing, and the impact of IPRs on technology transfer.
- Support the conclusion of a binding International Undertaking (IU).

WTO Members should:

- Grant the CBD permanent observer status in the Council for TRIPS.
- Revise the requirements for patent applications to prevent misappropriation of knowledge relating to genetic resources and to ensure consistency with access and benefit sharing regimes pursuant to the CBD. Patent applicants should be required to state the country of origin, and prove rightful or lawful access to the knowledge or resources.
- Extend the period for implementation of Article 27.3 (b) for at least 5 years after the conclusion of a substantive review.
- Complete a substantive review of Article 27.3 (b) and use the review to harmonize the TRIPS Agreement with the CBD and the International Undertaking.
- Expand the exceptions to patentability under the Article 27.3 (b).
- Resist attempts to reduce flexibility in defining *sui generis* systems.
- Undertake a “sustainability review” under article 71.1 of the TRIPS Agreement.
- Take measures to avoid disputes from arising in relation to IPRs and the provisions of the CBD and the TRIPS Agreement. These measures should include a moratorium on dispute resolution relating to TRIPS, incorporate CBD based expertise in the dispute resolution process, and the undertaking of an affirmation that, in the event of a conflict, the TRIPS Agreement should not interfere with a Party’s implementation of CBD obligations.

At the national level policy makers should:

¹² WWF/CIEL, *Biodiversity & Intellectual Property Rights: Reviewing Intellectual Property Rights in Light of the Objectives of the Convention on Biological Diversity* (Gland: WWF International, 2001), at 12-18.

- Develop and implement access and benefit sharing regimes with minimum and binding standards in national legislation.
- Define core intellectual property concepts carefully in national legislation.
- Utilize the exclusions to life patenting under Article 27.3 (b).
- Ensure *sui generis* systems are consistent with CBD obligations.
- Record experiences of TRIPS/CBD tensions.
- Provide a forum to allow indigenous people to develop strategies on the preservation and protection of TK.
- Consider the development of registries of TK.
- Ensure that national intellectual property offices are adequately resourced.
- Assist in the articulation of human rights principles as they relate to intellectual property rights.

Dutfield¹³ (2000), in an extensive review of various initiatives, including peoples' biodiversity registers, community intellectual property rights and SRISTI's¹⁴ local innovation databases, concludes that the relevance of the international intellectual property regime to the CBD is beyond doubt. The questions which he feels are unresolved include the following:

- It is uncertain that increased availability of IPR protection will automatically lead to greater levels of innovation in society. Innovation and creativity flourish in many parts of the world without any (western) IPR laws. On the other hand, allegations are increasingly made that too much IPR protection of basic research is stifling innovation (see Heller and Eisenberg 1998).
- The role of IPRs in the erosion of agro-biodiversity has been the subject of some polemical debates, yet we still do not know how far biodiversity is affected by IPRs for seeds, plant varieties and/or agrochemicals. But it can be argued that we cannot afford to wait for conclusive proof one way or another before making decisions on the design of environmentally sound IPRs. It is vital to consider whether and how the precautionary principle may be applied in the IPR context to minimize the risks.
- Some evidence suggests that most technologies supportive of biodiversity conservation are in the public domain. However, with respect to those which are not, it is unclear whether IPRs hinder or encourage their transfer to developing countries.
- It is widely accepted that the application of traditional knowledge and technologies can add value to genetic resources. While patents are clearly unsuitable mechanisms to protect the rights of traditional knowledge holders, the use of other IPRs may in some circumstances be feasible.

To achieve harmony between the CBD and the IPR-related international trade regime, Dutfield presents recommendations that follow concern (a) the development of IPR laws

¹³ Graham Dutfield, *Intellectual Property Rights, Trade and Biodiversity* (London: Earthscan, 2000).

¹⁴ Society for Research and Initiatives for Sustainable Technologies and Institute, see <http://www.sristi.org>.

that are CBD-friendly; and (b) ways and means to implement the CBD in harmony with the requirements of the international IPR regime.

The Convention on Biological Diversity

Conservation and sustainable use of biodiversity

- There is a lack of clarity in our understanding of the links between IPRs and conservation and sustainable use of biodiversity, but minimizing risks makes it vital to consider applying the precautionary principle. It may thus be prudent for developing country governments that have not yet fully implemented TRIPS for the time being to adopt all of the optional exclusions concerning patenting life.

Benefit-sharing

- Given that the bargaining position of biodiversity-rich countries holding extensive *in situ* plant genetic resources for agriculture is fairly weak, developing countries might investigate the relative advantages of acting alone, forming genetic resource supply cartels with other countries, or promoting a multilateral system of exchange and benefit-sharing. The latter might be the most constructive strategy.
- The conference of the Parties to the CBD might wish to consider initiating a process to develop an international code of conduct. Such a code would provide guidelines for best practice concerning access to genetic resources and equitable benefit-sharing. All interested stakeholder groups should be invited to participate in this process.

Technology Transfer

- Technology transfers could be facilitated through greater access to patent libraries and databases while bearing in mind that patents may not provide all the information needed to work the inventions. Moreover, it is important to understand that many of these patents may still be in force. Governments should improve public access to patent databases by such means as publishing patent texts on the Internet.
- Developing country governments should explore the possibilities (while being aware of the restrictions) that TRIPS allows for compulsory licensing of patented technologies.
- Users (and prospective users) of indigenous and traditional technologies should develop codes of conduct, ethical guidelines, and practice prior informed consent so that the holders of these technologies are fairly and appropriately compensated and rewarded. These instruments should ideally be developed in close collaboration with the peoples and communities concerned.

Traditional knowledge, innovations and practices

- Users of traditional knowledge, innovations and practices should respect the relevant local customary rules and regulations when negotiating their acquisition and commercialization.
- Research should be conducted in close partnership with local communities and grassroots organizations to adapt existing IPRs or develop practical, effective and

- culturally appropriate *sui generis* alternatives.
- Governments should conduct studies to explore the potential of non-patent IPRs such as geographical indications, petty patents and trademarks for protecting traditional knowledge, and make the results of these studies widely available to local communities.
 - Governments might consider widely supporting the development of local knowledge registers (as long as these are bottom-up participatory programmes such as India's Peoples' Biodiversity Registers) that patent examiners could access so as to ensure that traditional knowledge is not pirated. However, they should not claim ownership of these registers, since this would be an infringement of the rights of the knowledge providers.
 - Any *sui generis* systems for protecting traditional knowledge should be developed in close collaboration with indigenous peoples and local communities through a broad-based consultative process that reflects a country's cultural diversity.
 - Specific principles and objectives might be attached to these *sui generis* alternatives, such as: (i) the promotion of social justice and equity; (ii) the effective protection of traditional knowledge and resources from unauthorized collection, use, documentation and exploitation; and (iii) the recognition and reinforcement of customary laws and practice, and traditional resource management systems, that are effective in conserving biological diversity.

Louwaars (1998)¹⁵ provides an integral analysis of most of the different options presented in the issue concerning the TRIPS Agreement and the CBD, including Farmer's Rights as intellectual property rights that will balance the power of commercial breeders (David Wood); Farmer's Rights as a (non-IPR) community intellectual right that allows for farmer-values of collectiveness, utilization for domestic or social purposes and free exchange, and avoiding monopolistic control (Gurdial Singh Nijar); Farmer's Rights including a national fund for promotion of breeding and preservation next to IPR-type rights relating to commercial breeding and not to public breeding (Witoon Lianchamroon); The design of TRIPS-compatible IPR for modern varieties that guarantees the right of farmers to continue with their traditional ways of free production and exchange of any plant material (Huib Ghijssen). IPR, the access to and remuneration for plant genetic resources seem contradictory in their objectives and practices. In the international arena, the TRIPS Agreement and the CBD are largely perceived to be incompatible. They could be made compatible by linking IPR laws with non-IPR access and remuneration systems for plant genetic resources. These adjustments could also benefit local seed systems and *in situ* conservation.

Gupta (2004)¹⁶ proposes several ways in which indigenous knowledge, innovation and

¹⁵ Niels P. Louwaars, "Sui Generis Rights: From opposing to complementary approaches", Biotechnology and Development Monitor, No.36, at 13-16 (1998), available at <http://www.biotech-monitor.nl/3607.htm>.

¹⁶ Anil K. Gupta, "The Role of Intellectual Property Rights in the Sharing of Benefits Arising from the Use of Biological Resources and Traditional Knowledge", this paper was submitted to COP 7 of the

practices can be protected, so that the informal continue to grow and symbolically interact with modern science and technology:

- Current IP systems should be reformed to make them accessible for small grassroots innovators, by, *inter alia*, reducing transaction costs for small innovators and TK holders/providers;
- Information asymmetries in formal and informal knowledge systems should be overcome through IT applications, and the development of an international registration system for grassroots knowledge, innovations and practices;
- Dedicated green venture promotion funds and incubators for converting innovations into enterprise should be established;
- The mandate and responsibility of CGIAR¹⁷ institutions should be reformed to make it obligatory for international agricultural and natural resource management institutions to accord priority to adding value to local innovations, acknowledge the creativity and conservation contribution of local communities and TK experts;
- The role and responsibility of international financial institutions and UN agencies should be reconsidered to take into account ethical, institutional and financial support for grassroots innovations and local knowledge systems;

Nijar (1998)¹⁸ proposes that a collective rights system would best suit the needs of indigenous communities to protect their knowledge about and their use of biological material. *Community intellectual rights* could bridge that gap between the CBD and the TRIPS Agreement. Farmer's Rights as a (non-IPR) community intellectual right that allows for farmer-values of collectiveness, utilization for domestic or social purposes and free exchange, and avoiding monopolistic control. The conceptual framework for a *Community Intellectual Rights Act* is as follows:

Custodianship

- The local community is declared as the owner and steward of an innovation for past, present and future generations of the community. "Local community" refers to a group of people having a long-standing social organization that binds them together, including indigenous peoples, farmer's communities and local populations.

Free exchange amongst communities

- Local communities should grant free access to each other's inventions, as long as it

CBD in February 2004, available at www.wipo.int.

¹⁷ The Consultative Group on International Agriculture Research (CGIAR) is an informational association founded in 1971 and sponsored by the FAO, the World Bank, the United Nations Development Programme, and the United Nations Environment Programme. The CGIAR supports an international network of 16 international agricultural research centers. The mission of the CGIAR is to contribute, through its research, to promoting sustainable agriculture for food security in the developing countries.

¹⁸ Gurdial Singh Nijar, "Community Intellectual Rights Protect Indigenous Knowledge", *Biotechnology and Development Monitor*, No.36, p.11-12 (1998), available at <http://www.biotech-monitor.nl/3606.htm>.

is not used for commercial purposes.

Use for commercial purposes

- Local inventions can be used for commercial purposes only with the written consent of the local community.
- The local community receives a certain percentage of all revenues of commercial products that were based on the community's invention.
- Local communities may opt to be remunerated in a non-monetary way if this is deemed in accordance with their customs.

Collection and distribution of revenues

- Payments shall be made to the community or to an organization duly representing the community.
- If no such organization exists, or if the innovation is commonly shared amongst all local communities, the state shall act as trustee for payments arising.
- Revenues received by the state should be spent on the protection, development and maintenance of the communities' genetic resources.

Proof of invention

- Local innovations are acknowledged by the duly constituted representatives of the local community.
- Anyone who wishes to challenge this will bear the legal and evidentiary burden to do so.

Co-ownership

- For innovations that are established in more than one community, co-stewardship and benefits shall be evenly share amongst these communities.

Lettington (2001)¹⁹ comments on the International Undertaking on Plant Genetic Resources in the context of TRIPS and the CBD. He points out that "What the CBD does do, however, and TRIPS does not (admittedly because conservation is not a primary goal of TRIPS), is to recognize that monopolies and market manipulation will not provide a comprehensive answer to conserving biodiversity and thus Article 15 is only one element of a wider package, a wider package that is largely mirrored in the conservation and sustainable provisions of the IU." Also, he concludes that the TRIPS and CBD mechanisms for managing genetic resources do not, and will not, address the specific needs of agriculture and thus asymmetries and pressure on plant genetic resources for food and agriculture will increase.

¹⁹ See, *supra* note 3.

ACRONYMS

CBD	Convention on Biological Diversity
CGIAR	Consultative Group on International Agricultural Research
FAO	United Nations Food and Agriculture Organization
IP	Intellectual Property
IPRs	Intellectual Property Rights
ITPGRFA	The International Treaty on Plant Genetic Resources for Food and Agriculture
IU	International Undertaking
PBRs	Plant Breeders' Rights
SRISTI	Society for Research and Initiatives for Sustainable Technologies and Institute
TK	Traditional Knowledge
TRIPS Agreement	The Agreement on Trade-Related Aspects of Intellectual Property Rights
UPOV	The International Convention for the Protection of New Varieties of Plant
WIPO	World Intellectual Property Organization
WTO	World Trade Organization