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The Importance and Legal Significance of the Role of Cultural Diversity in the Preservation of Biological Diversity

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Abstract

This article examines the nexus that exists between international law of environmental protection (particularly the conservation of biological diversity and environmental sustainability) and that relating to preserving cultural heritage. It concentrates on the crucial interrelationship between biological diversity and cultural diversity and shows the ways in which the existence of each is dependent on the continuing existence of the other. The central thesis of this article is the proposition that the preservation of cultural diversity is necessary for the safeguarding of traditional knowledge, including that related to the sustainability of the ecosystem. This traditional ecological knowledge is, in turn, an essential element for the preservation and conservation of biological diversity that is fundamental to the long-term health of the ecosystem. This article begins with a general consideration of the implications of the following issues in terms of international law and national policy. These are: the impact of economic and cultural globalisation on cultural diversity; the importance of safeguarding of cultural diversity to preserving biological diversity (biodiversity); the potential loss of biodiversity as a result of the erosion of traditional ecological knowledge (TEK); and the importance of TEK in fostering sustainable development policies. Following this, there is an examination of current developments in international law relating to the safeguarding and preservation of traditional knowledge. Particular reference is made to the following intergovernmental fora: UNEP (in relation to the preservation of biodiversity); UNESCO (in relation to intangible cultural heritage); WIPO (dealing with it as a discrete category of intellectual property); and FAO (in terms of farmers' and plant breeders' rights). The implications for both national and international policy-making flowing from developments in these bodies are also considered.

Keywords: Biological and cultural diversity, international law, sustainable development, traditional knowledge.

اهمیت و ابعاد قانونی نقش تنوع فرهنگی در حفاظت از تنوع زیستی

ژانت بلیک

دکترای حقوق بین الملل، استادیار پژوهشکده علوم محیطی، دانشگاه شهید بهشتی

این مقاله به بررسی رابطه موجود میان قواعد حقوق بین‌الملل مربوط به حمایت از محیط‌زیست (به‌ویژه حفظ تنوع زیستی و پایداری محیط‌زیست) و قواعد مربوط به حفظ میراث فرهنگی می‌پردازد و توجه خود را اساساً به رابطه متقابل بین تنوع زیستی و تنوع فرهنگی معطوف داشته است. همچنین نشان می‌دهد که چگونه وجود هر یک از این دو به تداوم وجود دیگری وابسته می‌باشد. تز اصلی این مقاله، ضرورت حفظ و صیانت از تنوع فرهنگی جهت حمایت از دانش سنتی، از جمله دانش مرتبط با پایداری اکوسیستم می‌باشد. این دانش سنتی اکولوژیک، به نوبه خود، عنصر اساسی حفظ و صیانت از تنوع بیولوژیک است، که برای سلامت درازمدت اکوسیستم ضرورت دارد. این مقاله ابتدا تأثیرات موضوعات خاص از نقطه نظر حقوق بین‌الملل و سیاست ملی را به طور عام بحث می‌کند. این موضوعات عبارت‌اند از: تأثیر جهانی شدن در عرصه‌های اقتصادی و فرهنگی بر تنوع فرهنگی، اهمیت صیانت از تنوع فرهنگی بر حفظ تنوع زیست‌محیطی، کاهش بالقوه تنوع زیستی بر اثر اضمحلال دانش سنتی اکولوژیک و اهمیت دانش سنتی اکولوژیک در تقویت سیاست‌های توسعه پایدار. در ادامه این مطالب، تحولات کنونی در عرصه حقوق بین‌الملل در زمینه حفظ و صیانت از دانش سنتی و به‌ویژه ارگان‌های بین‌الدولی ذیل مورد بررسی قرار می‌گیرند: یونپ (در زمینه حفظ تنوع فرهنگی)؛ یونسکو (در خصوص میراث فرهنگی غیرمادی)؛ وایپو (که به این مسائل به عنوان یکی از دسته‌های مالکیت فرهنگی می‌پردازد) و فائو (در ارتباط با حقوق کشاورزان و پرورش‌دهندگان گیاهان). اثرات تحولات صورت گرفته در این ارکان بر سیاست‌گذاری‌های ملی و بین‌المللی نیز مورد توجه قرار گرفته است.

کلیدواژه‌ها: تنوع بیولوژیک و فرهنگی، حقوق بین‌الملل، توسعه پایدار، دانش سنتی.

Introduction

The diversity of life forms to be found in the Earth's biosphere[2] and the intricacy of their interactions has enormous intrinsic value. Biodiversity describes the variability of life in all its forms, levels and combinations[3] rather than the ecosystems, species and genetic materials themselves (Birnie and Boyle, 2002; Glowka *et al*, 1994). Biodiversity is often used to refer to species diversity that has been broadly defined as the number of plant, animal and "lower organism" species within a particular area (Murray, 1996). Each species itself is composed of many individual plants and animals that may differ from each other in obvious or in much more subtle ways. These differences may be the result of either environmental factors or inheritance that is determined by genes. Biodiversity is thus the product of many genes and two distinctive species are of greater value to biodversity than two similar ones since they carry more genes that are unique to them.

An expanding human population and the associated problems of growing per capita energy consumption and increasing production of waste are eroding and altering the natural habitats of many species. This is leading to an accelerated loss of species (and their unique genetic inheritances) and to the widespread extinction of plant, animal and "lower organism" species. It is becoming increasingly obvious that the present variety of living organisms that make up biodiversity will not be maintained unless its value can be measured and recognised in terms that resonate with global policy-makers.

During the late 1990s, the notion of sustainable development has become an increasingly influential one for policy-makers on the international level[4] (Boyle and Freestone, 2001). This notion recognises the interdependency of humans, nature and the ecosystem and the need for human beings to use natural resources in such a way as "to ensure the preservation of the species and ecosystem for the benefit of present and future generations"(IUCN, 1982). As shall be shown below, traditional ecological knowledge relating to the environment – a major element in human cultural diversity – is often essential to achieving this.

Cultural and biological diversity

The relationship between cultural and biological diversity, although often viewed as a metaphorical one,[5] is also an intimate and direct one. Any loss of biodiversity attacks human cultural diversity that has co-evolved in a symbiotic relationship and *vice versa* (Glowka *et al,* 1994 at 48) express this succinctly: "[the erosion of biodiversity] tears at the very fabric of human cultural diversity which has co-evolved with, and depends on, its continued existence." Thus, when any of the languages and traditional cultural practices of local or indigenous populations are lost, so is the vast "archive" of traditional knowledge of biodiversity associated with it. For example, the knowledge of certain plant species and their medicinal characteristics may only be held in a particular language. If that language is lost (as many are dying out every day), then the traditional botanical knowledge associated with it is lost also (Posey, 1998).[6] Furthermore, many indigenous and local peoples depend heavily on the natural resources of their environment in order to sustain their traditional ways of life. In recognition of the significance of cultural diversity as a common heritage of humankind, UNESCO adopted its Declaration on Cultural Diversity by General Conference in 2001. This followed a statement by the Executive Board of UNESCO at its 161st Session on the need to highlight the links between cultural diversity and sustainable development.

Traditional knowledge makes an important contribution to the world's cultural diversity and to the sustainable use of many of the planet's natural resources. It is closely interdependent with the traditional way of life and resources that sustain it and is increasingly threatened by globalisation and other aspects of economic development.[7] Traditional ways of relating to the environment are often essential to the sustainability of an ecological system and its biological diversity. Thus the importance of safeguarding cultural diversity is not just a cultural question, but is one that has great implications for maintaining sustainable ecosystems and the biological diversity that depends on them. Both the 1992 UN Convention on Biological Diversity and the 2001 FAO International Treaty on Plant Genetic Resources for Food and Agriculture (discussed below) show that traditional ecological knowledge is increasingly being taken account of in the shaping of international environmental law (Bowman and Redgwell, 1996).

In 1992, Agenda 21 from the Earth Summit at Rio (UNCED, 1992b) called for recognition of the values, traditional knowledge and resource management practices of indigenous peoples and other local communities (such as farmers). It stated in Principle 22 that:

"Indigenous peoples and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development."

This will require that ways can be found to counterbalance the purely economic and utilitarian measures that legal systems traditionally apply to intellectual property with the cultural and spiritual values inherent in biological diversity.

International law has so far formally recognised the importance of traditional knowledge in relation to three questions - the preservation of biological diversity (biodiversity), food security and sustainable development. However, such international treaties are still very limited in number and examples of instruments with contrary outcomes also exist.[8] Thus, as the law currently stands, the best means currently available to tradition-holders for safeguarding their traditional ecological, biological, agricultural etc. knowledge is to withhold it unless specific licensing arrangements are made to ensure confidentiality and equitable benefit-sharing.

International treaties and intergovernmental organisations

As a precursor to the international treaties discussed below, the 1972 World Heritage Convention of UNESCO[9] represented a major conceptual achievement. This was the time that cultural and natural heritage have been dealt with in a single instrument. For this reason, it clearly has significance for this study, formalising the notion that there are direct linkages between cultural and environmental protection issues. Furthermore, the fact that there exist several sites worldwide[10] included in both the World Heritage List and the UNESCO list of Biosphere Reserves makes this even stronger.[11]

1992 UN Convention on Biological Diversity

The UN Convention on Biological Diversity (CBD) was adopted at the Rio Summit in 1992 along with four other main texts,[12] including Agenda 21. Chapter 15.2 of Agenda 21 sets out the importance of the conservation of biological diversity as follows:

"The natural ecosystems of forests, savannahs, rangelands, deserts, tundras, rivers, lakes and seas contain most of the Earth's biodiversity. Farmers' fields and gardens are also of great importance as repositories ... The current decline in biodiversity ... represents a serious threat to human development."

Amongst the objectives set out in Agenda 21 are some management-related objectives that governments should pursue towards preserving biological diversity. Included in these is the promotion of sustainable production systems, such as traditional methods of agriculture and agroforestry that use, maintain or increase biodiversity. Action should also be taken to "respect, record, protect and promote the wider application of the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles for the conservation of biological diversity." (15.4 (d) and (e)).

Ten years later, the Johannesburg Summit[13] regarded the protection of biodiversity as one of the "basic requirements" for achieving sustainable development and in preserving cultural integrity.[14] It also highlights the 1992 UN Convention on Biological Diversity (CBD) as the "key instrument for conservation and sustainable development of sustainable use of biological diversity."[15] Amongst twenty measures to be taken by States to ensure full implementation of the treaty's objectives, are those that relate specifically to traditional knowledge. These include recognition of the rights of local and indigenous communities who are holders of traditional knowledge, innovations and practices[16] and promotion of the effective participation of indigenous and local communities in decision-making concerning the use of their traditional knowledge.[17]

The 1992 CBD emphasises the important role played by local and indigenous peoples' traditional knowledge, innovations and practices in ensuring the sustainable use of natural resources and preservation of biodiversity. In its Preamble, for example, it makes reference to the "cultural, recreational and aesthetic values of biological diversity and its components" whose conservation is a "common concern of humankind."[18] It also gives a central role to the *in situ* conservation of biological resources[19] which involves preserving the way of life and associated knowledge/know-how of tradition-holders and recognising that local and indigenous communities are vital to the success of *in situ* conservation policies for biodiversity. This recognition implies the need to develop mechanisms that enhance traditional knowledge itself and strengthen the viability of the communities that hold it. The intellectual property system *per se* is seen as an inappropriate mechanism to achieve this, while human rights mechanisms are inadequate although they contain some important concepts.

Article 8(j) and its related provisions contain the core statement of this approach, requiring Contracting Parties (as far as possible) and subject to their national legislation to:

"respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustained use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices..."

This also places the obligation on Parties to identify and eliminate policies that have a negative impact on biological diversity through the erosion of cultural diversity, such as "[p]erverse incentives that encourage

the over-exploitation and displacement of traditional practices." Parties are required to develop policies that promote the wider application of such traditional knowledge and practices while ensuring the consent of the knowledge-bearers and equitable benefit-sharing from such applications.[20] Furthermore, protection of the customary use of components of biological diversity in accordance with traditional cultural practices is encouraged,[21] thus explicitly recognising the importance of custom in preserving biodiversity.

At the Nairobi meeting of the Conference of the Parties (COP) to the CBD in 2000,[22] Article 8(j) and its related provisions were reviewed. Parties were called upon to promote the preservation of cultural identities (Point 16) *inter alia* by registering traditional knowledge and practices of indigenous/local communities that "[embody] lifestyles relevant for the conservation and sustainable use of biological diversity." There have increasingly been calls for the development of such a *sui generis* system for preserving traditional knowledge and related biological resources given the apparent inadequacy of current international law to do the job. The CBD Secretariat has been working in conjunction with the World Intellectual Property Organisation (WIPO) to evaluate existing inadequacies of the intellectual property system for protection of traditional knowledge, in particular to develop guidelines and principles.

World Intellectual Property Organization (WIPO)

A major impetus for WIPO's recent work in the field of traditional knowledge has been the increasing economic, scientific and commercial value of genetic resources to a wide range of interests with the emergence of modern biotechnology.[23] In the WIPO *Programme and Budget* for the 1998/1999 biennium, the Global Intellectual Property Issues Division was established[24] to address, *inter alia*, intellectual property rights for new beneficiaries and in relation to biological diversity and biotechnology. A Working Group was established to study the IP-related aspects of biotechnology and the implementation of the CBD as well as *in situ* documentation of traditional knowledge relevant to the preservation, conservation and sustainable use of biological diversity. Collaborative work has been carried out with UNEP within the framework of the Convention of Biological Diversity (1992) to study of the role of IPRs in the sharing of benefits from the use of biological resources and associated traditional knowledge.

In response to requests from Member States, WIPO established an Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore in 2000.[25] The three primary themes for the Committee's discussions concern intellectual property issues arising in the context of: access to genetic resources and benefit sharing; protection of traditional knowledge, whether or not associated with these resources; and the protection of expressions of folklore. There is some hesitancy about creating a multilateral consensus on international norms that would allow for an international framework to appear.[26]

New technologies in applied biology have also meant that the possibilities for the *ex situ* utilization of genetic resources and their associated traditional knowledge have been increasing in several industrial areas. The products and industries involved include: herbal medicines; pharmaceuticals; crop protection (pesticides etc.); biotechnology; horticulture; seed industry for crop development; and cosmetics. Discussions in various international fora on access and benefit-sharing in relation to genetic resources

have generally been held within the following four frameworks: contractual agreements for access and benefit-sharing; legislative, administrative and policy measures at national and regional levels to regulate access to genetic resources; multilateral systems for facilitated access to genetic resources and benefit-sharing (see the discussion below concerning the FAO); and existing IP frameworks for the legal protection of biotechnological innovations.

WTO and the TRIPS Agreement

The WIPO/UNEP approach differs from that taken by the world trade organisation (WTO) in the TRIPS Agreement[27] which makes no reference to traditional knowledge as such but does allow Parties to develop their own *sui generis* systems for plant protection.[28] Two issues of major relevance here are public versus private domain and the use of patents for components of biological diversity. IP rules treat all knowledge as being in the public domain unless protection can be extended to it through patents or other IPRs. This is extremely unsatisfactory for the holders of traditional knowledge, many of whom are indigenous people, since IPRs tend to favour those exploiting traditional knowledge for commercial gain. The TRIPS Agreement has effectively extended this private domain created by IPRs since its provisions are mandatory on all WTO Member States. Furthermore, there is no reciprocal obligation on Member States to recognise the public domains of other States (Carniero da Cunha, 2001 at 146)[29].

Where States conduct a policy of making traditional knowledge publicly available, they must be able to protect it from being privatised and ensure that the economic benefits from any commercial exploitation is shared with the tradition-holders themselves.[30] However, this cannot be achieved by any State operating such a policy on its own, and would require some form of international agreement The ownership of components of biological diversity claimed through patents is seen as a major threat to traditional knowledge, as sanctioned and promoted by international trade agreements (Nijar, 2000 at p.2).[31]

Patents are not generally useful for protecting traditional knowledge that people wish to keep confidential[32] and are not suitable mechanisms to protect most traditional knowledge, even where the holders wish to exploit it commercially themselves. For example, most traditional knowledge cannot be traced to a specific group or community and, even where it does fulfil the criteria of patentability, it is unlikely that the tradition-holders could afford the huge costs involved in acquiring a patent. Although the holders of patents derived from traditional knowledge sources cannot prevent the communities themselves from continuing to use the knowledge in question,[33] there is concern amongst tradition-holders that they should share in the economic benefits of commercial exploitation of their knowledge. Many States (including the US and Japan) do not recognise undocumented traditional knowledge as 'prior art,' thus leaving it vulnerable to patenting (Jayaraman, 1999).[34] Trade secret protection[35] should perhaps be considered for such knowledge since it is traditionally extended to intellectual property that is unpatentable and can be applied to a wide range of information that could include traditional knowledge.

The TRIPS Agreement was designed to harmonise IPR standards as they apply to trade in order to encourage international trade and provide it with a more secure basis.[36] The Preamble makes it clear that the rights it protects are private rights and thus the knowledge, ideas and innovations of traditional societies viewed by them as a commonly held

knowledge is not included in its protection regime. Furthermore, IPR protection is granted only to products that have an industrial application and to innovations that are trade-related whereas most innovations in the public domain are for local use and fall outside TRIPS (Nijar, 2000).[37]

The philosophy underlying TRIPS is one that does not recognise innovations that are handed down through generations and that are collectively held. These are both primary characteristics of traditional and local knowledge relating to biodiversity. This must be taken into account when judging the impact of the TRIPS Agreement on traditional knowledge and biological diversity. It makes no explicit reference to traditional knowledge and the rights that it provides are clearly intended to be of benefit to commercial entities rather than local communities.[38]

Several developing States are creating national legislation to regulate access to biological resources and to protect indigenous knowledge systems in response to these pressures, including *sui generis* rules to protect plant varieties and associated indigenous plant breeding customs and practices.[39] It is noteworthy that such *sui generis* laws to protect traditional knowledge systems do not violate TRIPS since it simply stipulates minimum obligations[40] and thus leaves open the possibility for States to establish protection that grants a broader set of rights (Posey and Dutfield, 1997).[41]

Food and Agriculture Organization (FAO) and Farmers' Rights

The work of FAO in relation to farmers' rights[42] reflects an international recognition of the contribution made by traditional farmers to global food security and related biological diversity. This has led to a recent international treaty[43] that explicitly refers to the importance of the traditional knowledge of farmers to sustainability of the food supply. Food security is not simply a question of an adequate supply of food, but also requires stability of supplies and access to consumption by all.[44] Clearly this is not by any means the case with over 826 million people over many parts of the world chronically hungry (DFID, 2000).

The successful management of ecosystems, especially agricultural ones, must not be based solely on biological organisation but must also take account of the human interactions that shape and influence it. These social interactions themselves form a part of intangible cultural heritage and thus contribute to cultural diversity. Activities that focus on the sustainable management of biological diversity must also take account of cultural and socio-economic issues and the preservation of cultural diversity. This is particularly true since a large part of our existing legacy of biological diversity has been and will be acquired cross-culturally through agricultural practices. Furthermore, the capacity of the ecosystem to recover from environmental stress and its capacity to evolve requires 'informed adaptive management' of biodiversity to secure sustained production. To achieve this may well require an understanding of traditional knowledge and practices.

In view of the above and with the aim of bringing the international regulation of plant genetic resources into harmony with the 1992 CBD, FAO adopted the International Treaty on Plant Genetic Resources for Food and Agriculture in 2001. The Conference Resolution passed during its adoption[45] noted the contribution of plant breeders and farmers to global food security as well as the role of intellectual property rights in promoting innovation and investment in the conservation, breeding and sustainable use of

plant genetic resources (PGRs). In this way, it is an attempt to reconcile the social, cultural and economic rights of the holders of traditional knowledge relating to PGRs and the economic rights that large agribusinesses seek to assert through intellectual property rules.

Certain measures for the conservation (UNEP, 2001)[46] of PGRs (found in Article 5 of the Treaty) are of interest in relation to the importance of safeguarding traditional knowledge and biological diversity. These include promoting or supporting, as appropriate, farmers' and local communities' efforts to manage and conserve their PGRs on-farm. The positive exploitation of traditional knowledge and associated practices is encouraged by Article 6(a) that calls for agricultural policies that promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources.

Another section of this Treaty of interest to this study is Part III that deals with farmers' rights. Article 9 (1) requires Parties to recognise the "enormous contribution" made by local and indigenous communities and farmers to the conservation and development of PGRs that "constitute the basis of food and agricultural production throughout the world." As a result, Parties accept in Article 9(2) their responsibility for upholding farmers' rights as they relate to PGRs and to take the necessary measures to promote these. Such measures, such as "(a) the protection of traditional knowledge relevant to plant genetic resources for food and agriculture."

Part IV of the Treaty relating to the "Multilateral System of Access and Benefit-sharing" shows that the Treaty primarily concerned with protecting the economic rights associated with traditional knowledge. This Part requires that recipients of PGRs (and their genetic components) from the multilateral system shall not claim any intellectual property rights that limit the facilitated access it gives. (Article 12(3)) Thus, in relation to access, the Treaty is concerned with facilitating access to those PGRs that have become part of the multilateral system and not with supporting the rights of tradition-holders to withhold access to information and associated PGRs.

The purely economic rights of tradition-holders are addressed in Article 13(2) which requires that the benefits arising from the use of PGRs under the multilateral system should be shared equitably, *inter alia*, through information sharing, capacity building and the sharing of benefits arising from commercialisation. It is worth noting that these benefits "should flow primarily, directly and indirectly, to farmers in all countries, especially in developing countries, and countries with economies in transition, who conserve and sustainably use PGRs." (Article 13(3)). The Treaty is accompanied by a Global Plan of Action for the conservation and sustainable use of PGRs. This supporting component is important to the Treaty and Parties should promote its effective implementation through national actions and international cooperation.

The Johannesburg Summit on Sustainable Development (2002) noted (UNSSD, 2002 at para.38) that sustainable agriculture and rural development are essential to enhancing food security and food safety in an environmentally sustainable way. It also encouraged countries to ratify the FAO International Treaty and to promote the conservation, sustainable use and management of traditional and indigenous agricultural systems and to strengthen indigenous models of agricultural production.

Conclusion

We understand from this article, that the preservation of biological diversity and of the environment in a broader sense cannot be achieved or sustained without taking into consideration the safeguarding of cultural diversity in order to preserve traditional knowledge associated with the environment and its resources. The linkage that exists between safeguarding cultural diversity and the preservation of biological diversity is clear. This is in view of the fact that existing biological diversity cannot continue to thrive if the wide diversity of traditional knowledge, innovations and practices related to the environment and ecosystem is not itself preserved. Preservation of cultural diversity must take account of the people who are repositories of traditional knowledge, innovations and practices that contribute to it. This then implies a human rights and socio-economic dimension to environmental protection that goes well beyond simply the right to a clean and safe environment. For example, the norm of cultural integrity – the right of minorities to enjoy their own culture[47] – has been used to prevent activities that degrade the environment and its resources that are vital to sustaining a traditional lifestyle and culture.

It has been shown that there are already in existence obligations of relevance to the preservation of traditional ecological knowledge, innovations and practices under international treaties. An important early instrument was UNESCO's 1972 World Heritage Convention since it first made explicit the linkage between cultural and natural heritage. The 1992 CBD is the most significant instrument in this area so far, first since its subject matter is biological diversity, but even more so because it recognises the link between "indigenous and local knowledge, practices and innovations" and preserving biodiversity. It also requires Parties to eliminate those practices that have a negative impact on biological diversity through the erosion of cultural diversity.

Another multilateral instrument that makes explicit reference to the importance of traditional knowledge to environmental sustainability is the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture of the FAO. In the case of this treaty, it recognises the important contribution of farmers' and plant breeders' traditional knowledge to the sustainability of the food supply. The TRIPS Agreement of the World Trade Organisation makes no direct reference to traditional knowledge as such. Rather, it is designed to protect private rights and traditional knowledge held in common by the community is placed firmly in the public domain and thus not covered. Indeed, the overall philosophy of TRIPS is one that does not recognise innovations that are handed down through generations and collectively held. However, it does allow Parties to develop their own *sui generis* systems for plant protection that could imply also the protection of the rights of holders of traditional knowledge in this regard.

WIPO is active in seeking to develop strategies for the protection of genetic resources and traditional and the rights of the holders of such knowledge. Since the 1998/9 biennium, WIPO has sought to address the needs of new beneficiaries of intellectual property (IP) rights – such as the holders of traditional knowledge – and the IP- related aspects of biodiversity and biotechnology. In 2001, an Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore was established at WIPO and is continuing its deliberations including the question of whether an international treaty is required in this area.

Notes

1. Ph.D., International Law.
2. The earth's biosphere is a thin interlocking layer of land surfaces, oceans and atmosphere that embraces a variety of living organisms that is so great that most have not yet been identified.
3. The IUCN guide to the 1992 UN Convention on Biological Diversity (Glowka *et al*, 1994) states, " it represents to variability within and among [ecosystems, species and genetic materials] and is, therefore, *an attribute of life*, in contrast with 'biological resources.'
4. Given its classic definition in WCED at p.43 as: "[D]evelopment that meets the needs of the present without compromising the ability of future generations to meet their own needs."
5. The Mid-term Budget of UNESCO (Biennium 2002-3) notes that: "As our genetic diversity is vital for our survival, so our cultural diversity is critical for our continued growth and even our peace and well-being."
6. It is noteworthy that six countries are centres of cultural diversity as well as 'megadiversity' countries with exceptional numbers of unique plant and animal species.
7. In the global marketplace, value is given to information and resources only once they enter the markets and the price paid does not reflect the actual environmental and social costs of production.
8. For example, the 1991 revision of the Union for the Protection of New Varieties of Plants (UPOV), adopted in 1961 by a few industrialised States and revised in 1972, 1978 and 1991. This agreement effectively ends the traditional right and customary practice of saving, exchanging and using seeds and selling produce in the traditional market-place.
9. Convention on the Protection of the Cultural and Natural Heritage, 16 November 1972.
10. In a recent list, 69 such sites over all continents were given. See UNESCO webpage at: http://www.unesco.org/mab/BR-WH.htm.
11. Biosphere Reserves are areas of terrestrial and coastal ecosystems of importance to biodiversity that are internationally recognised under the Man and Biosphere (MAB) programme of UNESCO.
12. Agenda 21 (Plan of action); Framework Convention on Climate Change; Declaration on Environment and Development; Statement of Consensus on Forest Principles.
13. International Summit on Sustainable Development, Johannesburg September 2002.
14. It noted that biodiversity "plays a critical role in overall sustainable development and poverty eradication [and] is essential to ... human well-being and to the livelihood and cultural integrity of people." Para 42.
15. *Idem.*
16. Para.42(j).
17. Para.42(l).
18. This also reflects calls in cultural heritage instruments to protect and preserve their subject as a "common heritage of humankind." The 1972 World Heritage Convention of UNESCO is the prime example of this and one that, significantly, addresses protection of both cultural and natural heritage with ICOMOS and IUCN acting as the advisory bodies to that Convention.
19. An approach that has strong parallels with cultural heritage preservation policies.
20. Actions that might be taken to achieve this include legislation that requires the informed consent of tradition-holders and the sharing of benefits with them, supporting traditional communities in the protection and control of their knowledge, raising public awareness of the value of such knowledge and developing ethical guidelines for its collection and dissemination.
21. Art. 10 (c) reads: [Parties shall as far as possible] protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements."
22. Doc. UNEP/CBD/COP/5/L.31, 25 May 2000.
23. In WIPO, "traditional knowledge" refers to: "Tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information; and, all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields."
24. Its purpose is described in a WIPO briefing document as: "a response to the challenges facing the intellectual property system in a rapidly changing world ... [that]

... call for the proactive exploration of new ways in which the intellectual property system can continue to serve as an engine for social, cultural and economic progress for the world's diverse populations."

25. Agreed by the WIPO General Assembly at its 26th (12th Extraordinary) Session, 25 Sept.-3 Oct.2000; First session held on April 30 to May 3 2001.
26. Many States resist any adaptation of IP rules that are seen to undermine the traditional IP system while developing States may have problems with indigenous communities and fear granting them further cultural and economic rights.
27. Agreement on Trade-related Intellectual Property Rights, Part of the Uruguay Round of the GATT Agreement of the WTO adopted in 1992.
28. Art.27.
29. "As a result, knowledge that has been in the public domain for generations in one country might be privatised and enjoy IPRs in another country. Not only is the original country excluded from its benefits, but a supplementary irony is that the TRIPS agreement obliges it to honor such an intellectual right. What was originally in the public domain in the country comes back, thanks to these regulations, as private property."
30. The statement of the *Bellagio Conference on Cultural Agency/Cultural Authority*: *Politics and Poetics of Intellectual Property in the Post-colonial Era ('Bellagio Declaration')* (1993) notes that each intellectual property right "fences off come portions of the public domain" and that "...we favour increased recognition and protection of the public domain. We call on the international community to expand the public domain through expansive application of concepts of 'fair use', compulsory licensing and narrower initial coverage of property rights in the first place."
31. He notes that 75% of plants providing active ingredients for prescription drugs are 'discovered' by researchers because of their use in traditional medicine and that 40% of the world economy is based on biological products and processes.
32. An exception to this may be the potential for patenting applications of traditional knowledge to practical problems (of harvesting or fishing, for example) as 'technology' since that category can include any knowledge that is useful, systematic and organised to address a specific problem.
33. Indian farmers, for example, can continue to use the neem seed as a pesticide.
34. India, for example, has launched a programme to create digital databases of its traditional knowledge that will be accessible to the patent offices of other countries in order to prevent patents being granted to foreign companies for traditional Indian medical remedies. It will cost $1 million, much less than the cost of contesting patents in foreign courts once granted.
35. Recognised as a measure against unfair competition by the Paris Convention (Art.10 bis) and the TRIPS Agreement (Art.39).
36. "Desiring to reduce distortions and impediments to international trade, and taking into account the need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to international trade." (Preamble).
37. He argues that TRIPS therefore aims to reinforce the rights of transnational corporations at the expense of the people and producers of the Third world.
38. However, several Member States of the WTO have argued that nothing in the Agreement prevents them from implementing national legislation and measures that support the objectives of the CBD, including protection of traditional knowledge through *sui generis systems*.
39. *Ibid* at 10 cites a number of examples, including a regional initiative in the *African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources (OAU)*.
40. Art.1(1).
41. Third World Network (Penang) has proposed the development of a model law dealing with community IPRs as a response to the WTO's call for new forms of *sui generis* IP protection. Cited at p.110.
42. This will be discussed in more detail below.
43. *Vide supra* n.11
44. According to the World Food Summit (1996), "Food

security ... is achieved when all people, at all times' have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

45. UNEP Conf.Res.3/2001 of 3 Nov.2001.
46. "conservation, exploration, collection, characterization, evaluation and documentation.."
47. Affirmed in Art.27 of the 1966 International Covenant on Civil and Political Rights

References

Birnie, P. and A. Boyle (2001). *International Law of the Environment. Second edition* (Oxford University Press) at Chapter 13.

Bowman, M. and P. Redgwell (1996). *International Law and Conservation of Biological Diversity* (The Hague, Netherlands).

Boyle, A. and D. Freestone (eds.) (2001). *International law and Sustainable Development – Past Achievements and Future Challenges* (Oxford University Press).

Carniero da Cunha, M. (2001). "The role of UNESCO in the defense of traditional knowledge," in P. Sietel (ed.) *Safeguarding Traditional Cultures: A Global Assessment* (Smithsonian, Washington D.C.) pp.143-148.

Department for International Development (DFID) (2000). *Food Security*, a Policy Planning and Implementation (London).

Dutfield, G. (2000). "The public and private domain," *Science Communication* (Thousand Oaks, Ottawa).

Glowka, L. *et al* (1994). *Guide to the Convention on Biological Diversity* (IUCN Environmental Law Centre).

IUCN (1982). *World Charter for Nature* (adopted 28 October 1982).

Jayarama, K.S. (1999). "... and India protects its past on-line," *Nature* (30 Sept.1999).

Murray, M. (1996). "The value of biodiversity," in J. Kirkby, P. O'Keefe and L. Timberlake (eds.) *The Earthscan Reader in Sustainable Development* (Earthscan Publications Ltd., London) pp. 18-29.

Nakashima, D. (1998). "Conceptualizing nature: the cultural context of resource management," 34 (2) *Nature Resources* (1998) 8.

Niec, H. (ed.) (1998). *Cultural rights and Wrongs* (Unesco Publishing, Paris).

Nijar, G.S. (2000) "Intellectual property rights and the WTO: undermining biodiversity and indigenous knowledge systems," *Second Regional Worlds Colloquium 1999-2000* (University of Chicago, USA).

Posey, D.A. (1998). "Can cultural rights protect traditional cultural diversity?" in H.Niec (ed.) *Cultural rights and Wrongs* (Unesco Publishing, Paris) pp.42-56.

Posey, D.A. and G. Dutfield (1997). *Beyond Intellectual Property: Towards Traditional Resource Rights for Indigenous People and Local Communities* (Ottawa, Canada).

UN Conference on Environment and Development (UNCED) (1992a) *Declaration* (3-14 June, Rio de Janiero).

UNCED (1992b) *Agenda* 21 (3-14 June, Rio de Janiero).

UN Summit on Sustainable Development (UNSSD) (2002a). *Final Declaration* (2-14 September, Johannesburg).

UNSSD (2002b). *Plan of Implementation*. (2-14 September, Johannesburg).

UNESCO (1998). *Natural Sacred Sites – Cultural Diversity and Biological Diversity*. (Paris).

UNESCO (2001) *Declaration on Cultural Diversity* (Paris).

Warren, D. (1991). "Using indigenous knowledge in agricultural development," *World Bank Discussion Paper no.127* (Washington D.C., USA).

Wilson, E. (1992) *The Diversity of Life* (London, 1992).

World Commission on Culture and Development (1995). *Our Creative Diversity* (Unesco Publishing, Paris).

World Commission on Environment and Development (WCED) (1987). *Brundtland Report* (New York, 1987).

World Conference on Science (1999). Science Agenda – *Framework and Action* (June/July, Budapest) at paras.32-33 and 83-87.

World Food Summit (1996) *Final Report*.

World Intellectual Property Organization (WIPO) (1999) *Round Table on Intellectual Property and Traditional Knowledge* (21-24 July, Geneva).