Chapter 2

Issues Related to Protection of Traditional Knowledge - The Global Context

1. Introduction

Globally, the issue of protection of traditional knowledge has gained significance along with the growing importance of genetic engineering and with the patenting of new products of biotechnology based on traditional knowledge of genetic resources. To a great extent the debates concerning traditional knowledge protection has positioned developing countries against developed ones. The resentment has originally been triggered by several patent cases where the rights were not granted to the traditional knowledge holding communities, but to subsequent owners of innovations built upon traditional information and its use. When the United States Patent Office (USPTO) granted industrial 'inventors' patents on the use of neem bark in pesticides and the treatment of skin conditions, on the use of turmeric to heal wounds, and on the use of the ayahuasca vine as an anti-depressant, without checking for prior invalidating art, it caused protest in India and Brazil, and demonstrated the extent to which existing law fails to resolve competing claims to commercially valuable information. (WTO Document IP/C/W/370, 2002:5) In all these cases, the misappropriation took place in a developed country like US and the traditional knowledge holding countries were developing countries like India and Brazil. The chapter explores the existing international regimes that have an impact on traditional knowledge protection or the lack of it. It also explores options that are being studied to provide protection to traditional knowledge. This includes adaptation of existing IPR laws and the need for an international legally binding regime to protect traditional knowledge. Ultimately, the

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3 See US Patent 5,401,504, of 28 March 1995, assigned to the University of Mississippi Medical Center.

4 See US Patent 5,256,533 of 26 October 1993, concerning betacarboline, literature refers to as found in ayahuasca plants. The patent's assignees are the Board of Regents, The University of Texas System.
bigger question in the global traditional knowledge debate is whether property rights ensure traditional knowledge protection or sovereignty rights.

2. Position of Existing International Regimes vis a vis Protection of Traditional Knowledge

At present there is little binding international instrument that protects traditional knowledge. Countries that have signed and become members of international agreements are expected to abide by the rules and fulfill obligations as laid out in the agreements. A problem often faced by international agreements is that though they may be legally binding there is no strong enforcement mechanism to ensure that all members comply with the provisions.

2.1 Trade Related Aspects of Intellectual Property Rights (TRIPS)

The TRIPS Agreement is an exception since it has a strong enforcement mechanism. It is also the only global IPR treaty that makes it the most significant agreement relating to IPRs and biodiversity. The TRIPS does not even mention traditional knowledge. The existing IPR system under TRIPS on the contrary, rewards private ownership of knowledge as opposed to the communal nature of traditional knowledge. The preamble of TRIPS recognizes that "intellectual property rights are private rights". The concept of private rights is incorporated in TRIPS under Article 28 whereby, a patent confers exclusive rights on its owner to prevent third parties from making, using, offering for sale, selling or importing (for these purposes) the patented product; and to prevent third parties from using the patented process (and from using, selling, or importing the product obtained from the patented process). IPR owners are taken to be the natural or legal persons (such as corporations and institutions). This system of exclusive and private rights clashes with the traditional social and economic system in which local communities make use of and develop biodiversity, including crops and medicinal
plants. Seeds and knowledge on crop varieties and medicinal plants are usually freely exchanged within the community.

According to Article 27.1 of TRIPS, patents shall be granted to protect inventions, whether products or processes, "which are new, involve an inventive step and are capable of industrial application." The TRIPS Agreement does not specify what an 'invention' is and since there is no universal concept, on what it means, countries can, within certain limits opt for various alternatives. Also according to Nijar, "implicit in these requirements is that there must be an identifiable inventor. This definition almost immediately dismisses the knowledge systems and the innovations of indigenous people and farmers because they innovate communally, accretionally over time and sometimes inter-generationally. Their innovations are for the common social good and not intended for industrial application. (Nijar, 1996: 13-14)"

According to Cullet (2004), the IPR system as envisaged under TRIPS has two main consequences. "On the one hand, if traditional knowledge innovations fulfill the criteria for protection under existing categories of IP rights they are not excluded from the purview of the Agreement. On the other hand, there is no recognition of the special nature of traditional knowledge under TRIPS.

Another impact of IP rights over traditional knowledge is on the ownership of traditional knowledge. Knowledge that was earlier freely accessible earlier now becomes public domain knowledge. As a result no one can claim rights over this knowledge. One would conclude that this has led to a shift in property rights from traditional knowledge holders to that of IP holders.

The minimum standards of TRIPS Agreement neither stop countries from having distinct procedural mechanisms for granting IPRs. In practice even when all developing and least developed countries have implemented their TRIPS Agreements commitments, it is likely that levels of patent protection in certain countries will remain higher than in most developing countries. This implies that even if certain types of
patents on traditional knowledge are prohibited in the country of origin of the knowledge, they may be accepted elsewhere" (Cullet, 2004: 296-297).

Thus there may be cases when IPRs have been granted on traditional knowledge that have been in the public domain in developing countries. The case of patents on turmeric is an example. This amounts to misappropriation of traditional knowledge according to IPR protection criteria granted in a foreign country. This happens due to ignorance of local patent office with regard to prior art in foreign countries. This was the case with the USPTO which granted the patent on turmeric. Here, even though prior art in the form of printed material was available but was not presented to the USPTO. In USA, prior art can be established only if the information appears in a printed publication, or if it can be proved that it was previously used or sold in the USA. Oral disclosures are counted as prior art only if they were made in the USA. (Engelfriet, n.d.) On the other hand European Patent Convention of the EU accepts written as well as oral information that has been made public. (Dhar, 2003a: 8) In Japan, prior art is established if the information is found in publications or is made publicly available through telecommunication lines in Japan or elsewhere (Ghose, 2003: 16) The Patent Cooperation Treaty of the World Intellectual Property Organization which conducts prior art searches considers only written information as prior art. (Ruiz, 2002: 10) Simply a written description of the existence of the traditional use of a resource is usually not sufficient to establish prior art. The written record must describe the resource or its use in a way that will guide a skilled person to use or produce it. This means that it must be a technical record. Thus establishing novelty and non-obviousness for acquiring a patent depends on whether or not prior art in a very specific form can be established (Ghose, 2003: 17). It is difficult to establish prior art on the basis of traditional oral knowledge or ‘non-technical’ literature under such IPR regimes.

Also there are other issues such as issues related to commercialization of traditional knowledge without the community’s consent, the legitimacy of use of IPR to claim ownership over traditional knowledge. In response to these challenges, other
international fora have sought protection of traditional knowledge, though international efforts to protect have begun in the early 20th century.

2.2 World Health Organization

In 1978, the World Health Organization (WHO) first recognized the relevance of traditional medicine as a source of primary health care in the ‘Primary Health Care Declaration of Alma Ata’. The topic has been addressed since 1976 by the WHO Traditional Medicine Team, including through the development of the WHO Traditional Medicine strategy (WIPO, 2001).

2.3 Food and Agriculture Organization

However, the significance of traditional knowledge, in the field of plant genetic resources and agriculture was first recognized by FAO (Food and Agriculture Organization). The International Understanding on Plant Genetic Resources for Food and Agriculture (IUPGR) was the first comprehensive international agreement dealing with plant Genetic Resources for Food and Agriculture (www.fao.org/WAICENT/FAOINFO/AGRICULT/cgrfa/IU.htm) which in 1983, (Resolution 8/83), culminated in the adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture by the FAO Conference on 3 November 2001. Article 9 of the instrument recognizes role of farmers in the ‘conservation and development of plant genetic resources’ and calls upon contracting parties to ‘take measures to protect and promote farmers’ rights including (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture ;(b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture’ (ibid).

Thus ITPGR adopted by the FAO conference in 2001 requires measures for the protection of traditional knowledge but refers only to that traditional knowledge “relevant to plant genetic resources for food and agriculture”. It is thus narrower in scope than article 8(j) of the Convention on Biological Diversity (CBD), and would not
apply, for instance, to knowledge relating to medicinal or industrial uses of plant
genetic resources. The issue of protection here, is circumscribed to knowledge
incorporated in farmers' varieties (landraces) and certain associated knowledge (e.g.
specific cultivation practices).

2.4 World Intellectual Property Organization (WIPO)

Another important forum where traditional knowledge has been widely discussed is
WIPO. Following the adoption of TRIPS Agreement, WIPO has moved towards issues
that were not yet the subject of major IPR debates at the time of negotiation of TRIPS
Agreement. The issue of protection of traditional knowledge through IPRs has become
important for WIPO and it has established itself as an important forum for framing
regimes for protection of traditional knowledge through mechanisms such as benefit
sharing. The Intergovernmental Committee on IP and Genetic Resources, Traditional
knowledge and Folklore, has provided a forum for debates concerning traditional
knowledge in general. However, there has been a lack of census, among various
reasons one of which is the use of different negotiating strategies by different states to
obtain the best possible result. So far the Intergovernmental Committee has refrained
from putting any specific options for negotiation though it has indicated some of the
main policy tools and legal doctrines that it would see as most relevant in the context of
WIPO. (WIPO Doc WIPO/GRTKF/IC/5/8, 2003) This includes the creation of specific
property rights over traditional knowledge that would give its holders full legal control
over their knowledge. Other options include application of the principle of prior
informed consent, a compensatory liability approach, an unfair competition approach
and recognition of existing customary laws. While some of the options would classify
within the range of Intellectual Property rights framework, others such as use of
Customary laws go beyond such a framework.

The debates at the IGC also reflect the conflicting interests of the developed and
developing countries with regard to traditional knowledge protection. At the 11th
session of the IGC in 2007, developed countries, particularly the US and Japan,
continued to insist that it was too soon to address substantive issues, calling for further
studies and further work on the issue. (Intellectual Property Quarterly Update, 2007) The US emphasized that national experiences should be examined and that a first step would be to examine the role that existing intellectual property mechanism can play. Japan too saw no necessity for providing intellectual property protection to traditional knowledge and that it was not yet time to have a substantive discussion. However, developing countries were unanimous in their desire for further discussion and actively engaged in stating their positions and opinions on the issues which have included for a legally binding instrument.

2.5 United Nations Commission on Human Rights

In the United Nations Commission on Human Rights, which has a working group on the Draft Declaration on the Rights and Indigenous People, the Draft Declaration deals with the rights of indigenous people in areas such as self-determination, culture and language, education, health, housing, employment, land and resources, environment and development, intellectual and cultural property, indigenous law and treaties and agreements with governments( URL: www.med.govt.nz/buslt/int-prop/traditional-knowledge/fact-sheets/fact-sheets-08.html).

Article 29 of the Draft Declaration states: "Indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations including human and other genetic resources, seeds, medicines, knowledge of the properties of fauna and flora oral traditions, literatures, designs and ritual and performing arts."(ibid) A report by the High commissioner on Human Rights notes that there are tensions between IP protection and the protection of the knowledge of local and indigenous communities( such as those relating to the use of such knowledge by people outside the community without the knowledge holders' consent and to the equitable compensation) that may " require amendments, adaptations, and additions the IP systems" (ECOSOC, E/CN.4/Sub.2/2001/13, 2001).
2.6 United Nations Conference on Trade and Development (UNCTAD)

The UNCTAD held on 30th October-1 November 2000, an "expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices". Over 250 people from 80 countries participated, including representatives of governments, indigenous groups, NGOs, Inter-governmental Organizations (IGOs), academia, private companies, and international agencies and some 50 papers on national experiences were presented. The Meeting’s outcome, which reflected the diversity of views of experts, was taken up in February 2001 by UNCTAD's Commission on Trade in Goods and Services, and Commodities. Recommendations to governments included: to raise awareness about protection of traditional knowledge, to support the innovation potential of local and indigenous communities, to facilitate the documentation of traditional knowledge and to promote the commercialization of traditional knowledge based products.(UNCTAD at http://www.unctad.org/en/special/c1dos5.htm, 2001)

2.7 Convention on Biological Diversity

The Convention on Biodiversity adopted in May-June 1992, was adopted at the United Nations Conference on Environment and Development in Rio de Janeiro, commonly known as the Earth Summit. The CBD, which has been ratified by more than 160 countries has three main objectives (Article 1):

- The conservation of biological diversity
- Sustainable use of its components
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources. (Text of the Convention, http://www.biodiv.org/convention/convention.shtml.)

Till date, one of the most prominent provisions on traditional knowledge is Article 8(j) of the CBD. With respect to the ‘knowledge, innovations, and practice of indigenous and local communities embodying traditional lifestyles’, parties to the CBD are
required under Article 8(j) to "respect, preserve and maintain knowledge, innovation and practices of indigenous and local communities embodying traditional lifestyles relevant for the conversation and sustainable use of biological diversity and promote their wider application with the approval and consent of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge innovations and practices."

Costa e Silva (1995:546-549) notes that the word 'holders' implies acceptance by the contracting parties that these communities have legal entitlement over their knowledge, innovations and practices, just as companies have over their inventions. This interpretation is reinforced by Article 18.4, which refers to the knowledge, innovations and practices of indigenous communities as "traditional and indigenous technologies".

The mandate of the article 8(j) Working Group established in 1998 is specifically mandated to consider both the conservation and the sustainable use of biodiversity in relation to traditional knowledge. (Section 1(a), Doc UNEP/CBD/COP/4/27, 1998) The Conference of Parties (COP) is also seeking to develop sui generis protection of traditional knowledge. (Decision vii/16 UN Doc UNEP/CBD/COP/7/21 2004)

The mandate given to the Article 8(j) working group is to 'consider non intellectual property based sui generis forms of protection of traditional knowledge, innovations and practices, relevant for the conservation and sustainable use of biodiversity' (ibid, Section 6(a)) This could include issues of ownership and access to traditional knowledge including prior informed consent, benefit sharing and registers of traditional knowledge.

The COP has taken other initiatives such as adoption of guidelines in 2004. The stated purpose of these guidelines is to bring together all relevant actors, to take into account traditional knowledge as part of the environmental, social and cultural impact assessment procedures 'with due regard to the ownership of and the need for protection and safeguarding of traditional knowledge, innovations and practices' (ibid ,Section
3(c), Akwe: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental, and Social Impact Assessment Regarding Developments Proposed to Take Place on, or Which are Likely to Impact on, Sacred Sites on Lands and waters Traditionally occupied or Used by Indigenous and Local Communities, in Section H (Annex), Decision VII/16). Thus, the guidelines have specifically recommended with regard to environmental impact assessment, that traditional knowledge should be considered as one integral component of baseline studies undertaken in part to identify components of biodiversity of special importance to affected people as well as to calculate the economic value of these resources. (ibid, Sections 37, 38)

In the long run biopiracy can be prevented and traditional knowledge protected by either amending the IPR regime or providing alternatives to it. There is no universally accepted solution to prevent biopiracy in the current regime (CIPR, 2002:73) but is often argued that including the three principles could help reduce biopiracy. Firstly individuals and organizations applying for IPRs on innovations should disclose the source and geographical origin of the biological resources and related traditional knowledge used in the innovation. Besides, obtaining Prior Informed Consent of the local community which is the traditional custodian of the resource or knowledge and ensuring equitable benefit sharing resulting from commercial gains with the concerned community would ensure the rights of traditional knowledge holders.

3. Access and Benefit Sharing (ABS) as a means to Protect Traditional Knowledge

In the current legal framework which does not provide protection to farmer breeders or traditional knowledge holders, there have been calls for at least development of some form of compensation that provides an indirect recognition of their contribution to this research and development and the profits reaped therewith. The issue of access has also pitched the South against the North with resources and the knowledge often in possession of the former and those seeking access for bioprospecting belonging to the latter. Action was thus initiated at the international level by developing countries as
they hold majority of the world’s biological resources to call for benefit sharing of profits incurred through the use of traditional knowledge.

3.1 Access to Traditional Knowledge

Access to traditional knowledge would refer to the conditions under which users would obtain the resources they need. The access referred here is the transborder access. Thus access also relates to the question of sovereignty of states to determine who is entitled to use the traditional knowledge. Access is also linked to disclosure of origin and benefit sharing, so that the origin of the knowledge or resource would enable one to determine the place where access has been sought and consequently determine the claimants of benefit sharing. Under both CBD and PGRFA Treaty, countries have sovereign rights over their resources. (Article 10, PGRFA Treaty, and Article 15(1),CBD). However, these regulations are not absolute. They come with commitments to facilitate access to their resources. This is because most countries are highly dependent on plant genetic resources for food and agriculture. A highly controlled access regime could provide more protection to traditional knowledge holders but is likely to discourage bioprospectors. On the other hand, a more liberal approach may increase the flow of bioprospectors, leading to potential increase in economic gain but most likely to reduce control of the original traditional knowledge holders over their resources (Damodaran, 2003). Thus the CBD provides for access to be on mutually agreed terms (Article 15(4), CBD) and prior informed consent of the state of origin (Article 15(5),CBD).

The results of research and development and the benefits arising from the commercial and other utilization of genetic resources have to be shared in a fair and equitable way with the country providing such resources, on mutually agreed terms (article15.7,CBD) However, it is not clear in this context what fair and equitable means, since these terms are to be agreed mutually and since there is no international arbitration envisaged to help determine this outcome. In addition, botanical gardens and seed banks may hold up to one third of the world's plant species collected well before the conclusion of the CBD. The CBD does not require such banks to adopt policies of prior approval by
countries holding the original genetic resources for previous collections. This means that these genetic resources can be accessed without any obligation to share benefits with the source countries. (Watal, 2001:172) This would also imply that the contribution of the traditional farming communities and their innovations would remain unrewarded. Within the access regime problems of such nature persist.

3.1.1 Prior Informed Consent (PIC)

At the international level, PIC is required under the CBD for any transaction concerning access to genetic resources between two member states (Article 15(5)), CBD). PIC enables states to determine conditions under which access is to be granted. For countries with rich biological resources and traditional knowledge associated with it, PIC is the only way to control the use of their resources and knowledge associated with it. The Bonn Guidelines on access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation, include a basic framework on PIC (Bonn Guidelines Decision VI/24). These appear to encourage transactions at the international level. The Guidelines ensure that while PIC is based on need to minimize cost of access, restrictions on access are legally valid. It also calls for PIC to be based on mutually agreed terms, to be specific and indicate the need for which access is sought. It also calls for setting up of clear institutional processes to make the process easier.

Two further elements should be noted in the relationship between PIC and traditional knowledge. Firstly the Guidelines recognize that there is no congruence between access to genetic resources and access to traditional knowledge which should be sought separately and secondly, while the guidelines do not provide for consent of holders of genetic resources and traditional knowledge as a condition of PIC, this is mentioned as a desirable aim together with the need to respect their established legal rights. (Cullet, 2004:160).

Since many states are yet to implement PIC under Bonn Guidelines in their domestic legislations, the impact is yet to be ascertained. However, those that do so, have
involved the local communities to varying degrees. In countries like South Africa the authorities issue permit only after ascertaining that the interests of all the stakeholders are protected. (Section 82(1), South Africa, National Environmental Management: Biodiversity Act, 2004). In case any stakeholder has an interest in the access being sought, the authority can issue a permit only if the applicant has obtained a PIC of the holder of the resource or knowledge and if they have entered into a material transfer agreement that regulates the conditions for access and benefit sharing. (Section 82(2), ibid). Also the Act recognizes that the two negotiating parties may not be equal in terms of bargaining power, and thus ensures the Authority to intervene in the negotiations on terms of the material transfer agreement and benefit sharing as well as facilitate negotiations between the two parties. (Section 82(4), ibid)

On the other hand, in countries like Peru, the right to determine PIC is given to representative organizations of indigenous people possessing collective knowledge (Peru, 2002)

Philippines has adopted a PIC framework that limits prospecting in the hands of indigenous cultural communities. (Philippines, 1997). Generally, access implies the free and PIC of concerned communities in accordance with their own customary laws. (Section 35, ibid) The system also recognizes the rights of indigenous people to the restitution of the intellectual property in case it has been acquired without PIC or in violation of local laws and customs (Section 32, ibid)

Countries like Costa Rica even grant local communities the right to refuse access to their resources and knowledge on cultural, spiritual, social, economic and other reasons. (Article 66, Costa Rica Biodiversity Law, 1998)

In countries like Venezuela, IPRs are not recognized unless the rules for accessing biological resources have been followed, thus making PIC a condition for IPRs and the burden of proof being on the applicant (Article 82, Venezuela, Ley de diversidad biologica 1999). (Cullet: 2004)
However, in India under the Biological Diversity Act, 2002, the national and state authorities take decisions on access to resources. The local communities do not have a say in determining PIC beyond the Biodiversity Management Committees who have an advisory role in determining access to biological resources.

The question of PIC has so far mostly concentrated on the appropriate level of regulations imposed on applicants. This explains the varying degrees of access and PIC permitted in different countries and the varying level of involvement of the local communities in regulating access. The effort has mostly been to ensure the best commercial benefits that can be accrued by the access mechanisms imposed on users of traditional knowledge and biological resources. However, what is totally ignored is that indigenous and local communities might not want outsiders to access their resources for spiritual or cultural reasons. Thus internationally, restricting access to resources is not an option, only regulating the conditions of access is.

3.2 International ABS regimes

The CBD is the basic treaty concerning ABS. A binding regime has not been agreed upon till date. The PGRFA Treaty is the only existing binding regime on ABS which applies only to a list of crops in Annex I of the PGRFA Treaty.

3.2.1 The CBD’s Bonn Guidelines and Proposed International Regime

In 2002, guidelines on the access to genetic resources and equitable sharing of benefits were adopted by the COP (Bonn Guidelines). These guidelines only constitute a basic framework for action by member states that are encouraged to use them to develop national legal frameworks. One of the main aims of the Bonn Guidelines is to increase transparency and certainty in access procedures so as to foster access by users of biological resources and traditional knowledge. (Culet, 2004:171)

The guidelines also seek to ensure that all stake holders are involved in the access procedures to ensure that there is no backtracking on the access decision after it has been taken because some relevant actors have not been involved. Benefit sharing under
the guidelines includes monetary benefits such as access fees, payment of royalties, research funding and joint ventures. Non monetary benefits include the sharing of research and development results, participation in product development, training related to genetic resources and access to scientific information relevant to conservation and sustainable use of biological diversity.

The negotiation of an international regime on Access and Benefit Sharing under the CBD made some progress during the fifth and sixth meetings of the ad hoc Open ended Working Group on Access and Benefit Sharing (ABS), which were held respectively in Montreal, October 8-12, 2007, and in Geneva, January 12-25, 2008. The 6th Working Group marked a considerable step forward due to an innovative step in consensus building. The main result of this approach is that “for the first time since the launching of the process, no Party questioned the general need for an international regime”, allowing to move forward into substantive discussions. As a consequence the official document adopted by the Working Group is a solid basis for future negotiations. Such negotiations must be concluded “at the earliest possible time before the tenth meeting of the Conference of Parties”.

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5 The terms of reference for the ABS Working Group are contained in the Annex to Decision VII/19D, which sets out a number of agreed parameters for the negotiation. These parameters concern in particular: (a) a process which shall be based on a gap analysis; (b) the nature of the international regime, which revolves around the questions of whether the latter should include one or more instruments and whether it should be legally binding or not; (c) its scope, which includes access to genetic resources and benefit sharing as well as traditional knowledge; and (d) a list of elements, which shall be considered for inclusion in the regime, comprising references to relevant existing instruments and processes.

6 This deadline is established in the CBD COP Decision VIII/4A, par.6. In addition to renewing the mandate of the Working Group (WG) and setting the above timeframe for the negotiation, this decision in Section C, established a group of technical experts on an internationally recognized certificate of origin/source/legal provenance which met in Lima, Peru, in January 22-25, 2007 See CBD(2007). The Group of Technical Experts considered the possible rationale, objectives and the need for an internationally recognized certificate of origin/source/legal provenance; defined the potential characteristics and features of such an internationally recognized certificate; analysed the distinction between the options of certificate of origin/source/legal provenance and implications for achieving the objectives of Article 15 and 8(j); and identified associated implementation challenges.
3.2.2 International Treaty on Plant Genetic Resources for Food and Agriculture

While the development of an ABS regime has moved slowly in CBD, the PGRFA Treaty includes a full fledged binding Access and Benefit Sharing regime. The basic principles regulating access is member states’ sovereign rights over their plant genetic resources for food and agriculture and the right to regulate access to these resources. Compared to the CBD, the scope of access regime under the PGRFA Treaty is narrower, not only because it deals with a specific number of crops listed in Annex I, but also because it does not include related traditional knowledge.

3.3 Certificate of Origin

One element that ABS negotiations have focused on in order to respond to the call for user country measures and to solve problems related to the monitoring and tracing of genetic resources is by developing some form of certificate of origin/source/legal provenance—more recently named ‘certificate of compliance’ (Medaglia, 2008:26) to prevent or minimize problems generated by the existence of two different jurisdictions for ABS arrangements—that of the place where the material is collected and that of the place where the research activity is carried out. The existence of an internationally recognized document would make it possible to check the legality of access at the place where the activity (patent, product approval etc) generates value and to discover the subsequent use of the resources and the origin of the corresponding benefit sharing. (ibid) This would also supposedly favour the creation of simpler access systems in the provider countries, in that existing control mechanism would be applied via the certificate in the later stages of research and development phase, thus helping to make the regulations on access to genetic resources more flexible. In this way monitoring and control would be less strict during the access phase and stricter during the development phase where control or check points would be established. This implies that the documentation would need to pass through various buyers, but the monitoring points would be reserved for certain milestones in the research and development process,
such as those related to product approval, IPR applications, publications, presentations of funding proposals etc. (ibid)

According to Fernandez (2004) many aspects still need to be clarified before this system can be operationalised. This includes:

1. The designation of national authorities to issue certificates that are mutually recognized.
2. Identification of conditions for verification of and compliance with the certificates, that is, the determination of which materials they would apply to, for what purposes, and at what moment or stage they would be verified.
3. Exemptions
4. Provision of cases in which it is not possible to identify the origin of the genetic resources, including benefit sharing
5. Differential treatment of different sectors
6. Dispute settlement mechanisms
7. The creation of an international certificate register
8. How countries that are not parties to the IR will be handled.

3.4 Analysis of ABS as envisaged under CBD

As in most of these fora debates have taken a North-South dimension. The majority of developing countries, including the Africa Group and the Group of 17 Like Minded Mega-diverse Countries have suggested developing a single international instrument while the developed countries are attempting to steer the discussions to national laws and measures and to the Bonn Guidelines on Access and Benefit Sharing which are voluntary in nature and emphasizing more analysis of gaps.

The African Group has proposed to amend Article 27.3 (b) in terms of IUPGR which recognizes the protection and promotion of farmers’ rights and to protect plant genetic resources. It was recommended as patenting of seeds, plants genetic resources actually
deal with the appropriation of knowledge & resources of the indigenous & local communities. The SADC also proposed the harmonization of Art. 27.3 (b) with IUPGR which also recognizes the principles of conservation & sustainable development of resources. (WTO Doc IP/C/W/163)

Norway's proposal to the WTO and the EC and Switzerland proposal in WIPO specifically require that patent offices send all declarations received with respect to biological resources and traditional knowledge to the CBD Clearing-House Mechanism. This would make the CBD provisions on PIC & ABS more effective. The TRIPS does not provide for the benefit sharing but they can enhance transparency & contribute to benefit sharing. It is crucial for the developing countries to establish national laws on CBD, which means on ABS & PIC. Implementation of measure should complement in both the developed & developing countries. The developed countries are required to provide technical assistance to the developing countries if requested. (WTO Doc IP/C/W/167)

Switzerland recognizes the involvement of the CBD, WIPO & FAO in dealing with the issues relating to ABS. (WTO Doc IP/C/W/284) In relation to traditional knowledge (TK) Switzerland is of the opinion that the need for providing effective protection arises due to the fact that its use has increased outside its traditional area of use as many other forms of knowledge, presently generally belongs to the public domain and can be used without consent and compensation by all interested. Earlier when the use of traditional knowledge was within the local community local laws, customs and traditions regulated questions of ownership and access. It therefore proposes the creation of database of these traditional knowledge which would give them the status of prior art that would provide protection to them once a patent application is examined. (ibid)

Many challenges are yet to be resolved by the international regime negotiators in order to complete negotiations on the regime. What should be the objectives of the international regime? Should the regime embrace both voluntary and mandatory measures? Are industry sectoral approaches tenable within the international regime?
Should compliance be the principle focus of the regime? If and how should negotiators deal with traditional knowledge related to genetic resources? Is ABS ultimately about capacity needs and if so what is the role of the private sector in this regard? How to deal with IPRs? (Hodges, Casas, 2008:82).

4. Disclosure of Origin as a Means to Protect Traditional Knowledge and ensure PIC and Benefit Sharing

One of the most critical multilateral processes for developing countries rich in biodiversity and traditional knowledge is the establishment of a Disclosure of Origin (DOO) of biological resources and/or associated traditional knowledge in patent applications (Disclosure Requirement). Many negotiations on the disclosure of origin requirement are taking place. The Disclosure Requirement is under discussion at the WIPO and WTO in the context of examining the relationship between the TRIPS Agreement and the Convention on Biological Diversity (CBD), an outstanding implementation issue and part of the agenda of the Council for the TRIPS. As such, the discussion is integral to any outcome of the Doha Round of multilateral trade negotiations. Over a third of the WTO membership supports the introduction of a mandatory disclosure requirement as proposed by developing countries (WTO, WT/GC/W/564/Rev.2-Rev.5, TN/C/W/41/Rev.2-Rev.5, IP/C/W/474-Add.5, 2006).

4.1 Rationale for Norms of Disclosure

It has been argued that a mandatory obligation on the patent applicant as part of the norms of disclosure would in some ways be self-policing. It would put the responsibility of proof on the patent applicant thus reliving individual countries from the administrative costs involved in scouting for cases of biopiracy. Besides, it would enable patent offices to be more vigilant while examining patent applications that deal with biological resources or traditional knowledge. Most importantly, it would be an important tool for developing countries rich in plant genetic resources in tracking down applications based on their traditional knowledge and thus be able to challenge ‘bad’
patents more effectively. Since most of the traditional knowledge exists in an orally transmitted form or is undocumented, DOO would enable patent examiners to make better assessment of novelty and inventive steps involved.

The issue of disclosure requirements stipulates how the origin of traditional knowledge and genetic resources and Prior Informed Consent can be disclosed in patent applications. Though the proposals from developing countries were officially submitted in 2006, discussions on the mandatory disclosure have been on at the international fora in the CBD, WTO and WIPO for over five years. The relationship between the TRIPS and CBD became a subject matter of high deliberations when States realized that the existing rules are not sufficient for the protection of traditional knowledge of biological resources that form part of patent applications. During the late 90’s the members of the WTO began the review of the ‘patentability’ subject matter as required under Article 27.3 (b) TRIPS Agreement which says: "members may exclude from patentability plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by a combination thereof."

The aim of the disclosure requirement is thus two fold: 1) to address the fact that the TRIPS Agreement, whilst promoting the granting of patents to inventions based on biological resources and associated TK, contains no effective provisions to protect those resources from misappropriation and misuse, and 2) to support the implementation of the CBD, in particular, the CBD obligations regarding access to biological resources and traditional knowledge. (South Centre, 2007:2) The CBD provides that access, where granted, should be subject to prior informed consent (PIC) of the country providing the resource, and countries should take measures to ensure fair and equitable benefit sharing arising from the commercialization or other utilisation of genetic resources on mutually agreed terms. The disclosure requirement is also facilitating the traditional functions of the IP system in assessing the patentability of a claimed invention. (Correa et al, 2006:25)
The disclosure requirement does not bring in new substantive element, either to the patent system or to the CBD. It merely creates a linkage between the acquisition and protection of the subject matter of the patents – namely, patentable inventions- and the substantive objects of protection under CBD- namely, biological resources and traditional knowledge. Members of the WTO are discussing the disclosure requirement only by looking at conditions to be placed on the patent applicant (under Article 29) as opposed to defining patentable subject matter or conditions of patentability (under Article 27) of TRIPS. (South Centre, 2007:25)

4.2 Diverse Views on Disclosure Requirements

Developing countries, from Asia, Latin America and Africa have made several attempts to harmonise TRIPS with the objectives of CBD. The main submissions by these countries is that TRIPS should be amended to include the disclosure of the source of biological materials or traditional knowledge as a condition to acquiring patent rights, and provide evidence that national laws on Prior Informed Consent and Access and Benefit Sharing have been complied with prior to obtaining the biological resource and traditional knowledge used in the patent claim.

Members of the WTO have been discussing the disclosure requirement by looking at the conditions to be placed on the patent applicant under Article 29 of TRIPS. Most developing countries are supporting the inclusion of an additional clause Article 29bis in TRIPS for mandatory disclosure requirement. Among other provisions this proposal calls for effective enforcement procedures whereby the administrative or judicial authorities would be able to take punitive actions in case of non-compliance of the disclosure requirement. However, there are strong divergence of views and interests between the developing and developed countries.

The divide between the developing and developed countries reflect the interests of the countries in the domestic front. Thus biotechnology industry organizations mainly from developed countries such as the US are focusing their efforts on blocking the addition
of disclosure of origin requirements in international patent applications at all the 3 international fora where it is being debated- WTO, WIPO, and CBD.

EU has thus supported the inclusion of disclosure of origin as a condition of obtaining patent rights, though it has argued that the legal consequences of non-disclosure should be left outside the purview of patent laws.

While Switzerland has proposed in the WIPO that disclosure requirement be made voluntary by amendment of the Patent Cooperation Treaty(PCT), EC supports the mandatory disclosure requirement by amending the PCT and the Patent Law Treaty(PLT). Developed countries such as US are against mandatory norms of disclosure on the basis that it would be inconsistent with the TRIPS Agreement and would violate the principle of non-discrimination between fields of technology, though it could be counteracted by the fact that fields of technology are different for different products and thus treating dissimilar fields of technology would not be against the principle of non-discrimination. The US also insists that disclosure requirement would be ineffective in enabling a better assessment of novelty and inventive step in patent claims.

With regard to non compliance to the mandatory disclosure requirement too there are diverse views. While developing countries’ proposals have called for enforcement of ways to ensure compliance with the disclosure requirement and in case of failure to comply with the obligations or in case of giving of false information, have called for prevention of further processing of the patent or revocation of the patent, the EC as mentioned earlier, has supported the inclusion of disclosure of origin as part of the patent application, but wants the consequences of disclosure outside the patent system, thus diluting the nature of the provision.
4.3 Submissions by Developing Countries

In the WTO, India mentioned the requirement the first time within the Committee on Trade and Environment (CTE). In a communication on item 8 of the CTE, India noted that "the fair and equitable sharing of benefits arising out of patenting and commercial exploitation of genetic resources is not dealt with at all in the TRIPS Agreement". The two Agreements represent two significant separate multilateral approaches to the utilization of resources. While TRIPS seeks to promote and foster technological innovation by ensuring the certainty of IP protection and of world markets for at least biotechnological inventions, its provisions are silent on how this protection can achieve the objective of sustainable development, specially in developing countries. (WTO WT/CTE/W/65, 1997) The Indian delegation added that the TRIPS Agreement and CBD presented two main contradictions. In TRIPS there is a lack of any conditions on patent applicants to mention origin of biological or genetic and indigenous or traditional knowledge used in the biotechnological field. The present mandatory conditions are confined to the disclosure of invention. Besides, there is also no provision in TRIPS regarding PIC of the country of origin and the knowledge-holder of the biological raw material used in the patentable invention. This needs to be reconciled with the Article 15.5 of the CBD. India therefore proposed that the TRIPS Agreement incorporate an obligation on patent owners to execute Transfer of Information Agreements for any traditional or indigenous knowledge already in the public domain or a part of the recorded or otherwise publicly accessible knowledge. This would give a concrete shape to the objective of benefit sharing incorporated in the CBD (ibid). Kenya, South Africa, and Pakistan agreed with India.

Two years later in the TRIPS Council, at the TRIPS Council meeting on July 7-8, 1999, the Indian delegation proposed that the objective of harmonising the approaches to the utilisation of living resources in the CBD and in the TRIPS Agreement "could be

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7 The CTE was established by the WTO General Council following a Decision taken by the Ministers in Marrakesh on Apr. 15, 1994.

8 Item 8 of the CTE's agenda is The Relationship Between the TRIPS Agreement and the Convention on Biodiversity.
operationalized if an obligation was imposed in the TRIPS Agreement to share benefits through material transfer agreements and transfer of information agreements. Such an obligation could be incorporated through inclusion of provisions in article 29 of the TRIPS Agreement, which dealt with conditions on patent applicants, requiring a clear mention of the biological source of the material and the country of origin. (WTO Doc. IP/C/M/24, 1999.)

In addition to it there is another condition that the inventor has to mention or provide evidence that he has obtained consent of the national authority within the territory of the source country where he accessed the resource from and that he has made arrangements for the sharing of benefits with the local community or the owners of the resource or the knowledge.

4.3 Submission of Developed States

The developed states led by United States argue that the disclosure requirement will be ineffective in achieving the objective of enabling a better assessment by patent examiners of novelty and inventive step in claimed inventions. In preparation of the subsequent meeting of the TRIPS Council, the United States submitted a paper with comments on the Indian proposal. (WTO Doc. IP/C/W/162 (Oct. 29, 1999).) The paper suggests that the best mode to put the CBD in practice, with respect to genetic resources, would be to require that parties seeking access to genetic resources or traditional knowledge enter into a contract with the sovereign entity grant that access. The paper states the Requirement would be: "an extremely ineffective way for countries that are the source of genetic resources or traditional knowledge. Monitoring copies of publications from patent offices around the world in search of notices of genetic resources or traditional knowledge would [be] an onerous task. If the secrecy of results of research using particular resources or knowledge can be maintained while those results are commercialised, parties might be encouraged to protect their rights through trade secrets rather than patents, in which case, no information would be available at all. In addition, imposing additional requirements on all patent applicants only increases the cost of obtaining patents that would have a greater adverse effect on
individual inventors, non-profit entities, and small and medium sized businesses, including those in developing countries". (ibid)

The US has even specified that the CBD recognizes the sovereign right of the States over their resource which provides the States with sufficient flexibility to decide whom to be granted access and for what a purpose. On the comments made on the Doha Mandate to look into the relationship between the TRIPS & the CBD, the US argues that the CBD does not require or mandate that changes have to be brought in the patent application in relation to disclosure of the origin of resource & associated knowledge.

It upholds that access by patent examiners to databases on genetic resources and traditional knowledge could aid in the discovery of prior art. In a formal submission the United States stated that: "...patent examiners world-wide could use organized searchable databases of genetic resources and traditional knowledge when examining patent applications. This could aid in the discovery of relevant prior art and thereby improve examination of patent applications in the relevant fields." (WTO Doc. WT/CTE/M/16, 1997)

The US instead suggests a contractual arrangement. To be effective the contracts should state the terms & conditions under which access is granted. This contract is to further look into the compliance of PIC for the use of the resources(WTO Doc IP/C/W/209). Patent law was not designed to regulate or enforce misconduct issues, such as misappropriation of traditional knowledge or genetic resources, but to promote the progress of the useful arts. (WTO Doc IP/C/W/43)

It thus argues that international effort should not be focused on new patent disclosure requirements but rather, on efforts to encourage the establishment of appropriate access and benefit-sharing systems that (1) improve compliance by providing users with clear rules for collection of genetic materials, and (2) help ensure that where uses of genetic resources or traditional knowledge are made, benefits are equitably shared with the
appropriate parties. For this, what is required is the existence of national access regimes which most of the States lack. (WTO Doc IP/C/W/449)

Japan too opposes the inclusion of DOO requirements in the review process of TRIPS. The proposed DOO requirements are beyond the obligation of the TRIPS. It also suggests, like the US that contract should be concluded between the users & providers of the resources. The value of the bio-resources has to be considered by paying compensation however the efforts of the inventor in investing time & money in the resource has to be considered and not just the rights of the providers of the resources. It suggests that contracts are best for the balancing of benefits between the users & providers concluded at the time of access. (WTO Doc IP/C/W/236)

The European Communities supported the view of the United States. Norway recommended that the Indian proposal should be seriously considered. Norway supports the views taken by India in relation to DOO & ABS, which in turn will ensure compatibility between the CBD & TRIPS. DOO assures proper grant of patents. Patent applications should not be allowed to be proceeded unless complied with disclosure. Criminal or administrative penalties can be taken outside the patent regime. (WTO Doc IP/C/W/473)

The discussion in the WTO also reflects the tension on whether patents should be revoked because of non-compliance with the requirement or fraud committed against patent offices. Developing countries and Norway hold a similar position in support of the suspension of a patent application when non-compliance is discovered upon or during the patent application. Norway has made clear that if non-compliance is discovered only after the patent has been granted, it should not in itself affect the validity of the patent, but rather be subject to appropriate and effective sanctions that would fall outside the patent system, for example criminal or administrative penalties. However, Norway considers that a patent can be revoked if it does not differ from traditional knowledge to the degree required to constitute a patentable invention.
The positions of developed and developing countries have thus been varied. As Correa (2005) states, “although the purpose of this obligation and its rationale seems clear enough, and there is substantial—though not unanimous—support for it to be established, the condition and circumstances of this obligation and how it will be applied need to be more precisely defined…” The scope and conditions of application of the obligation should be consistent with its purpose, and care should be taken not to impose a disproportionate burden on the applicants and institutions in charge of their applications.

However, the futility of the Developed countries arguments against the DOO proposals by developing countries is reflected by the following example. Firstly the contractual proposal is not reasonable due to the fact that it pitches two parties with unequal bargaining powers, in this case the traditional knowledge holders and the Biotechnological companies against each other. The example of Peru (WTO IP/C/W/493, 2007) also demonstrates that even if information on the prior art of traditional knowledge is made available to patent offices, in this case the US and the Japanese patent offices, there is no guarantee that this would ensure revocation of wrongful patents. Peru’s experience shows that even after Peru made available to United States Patent Office and Japanese Patent Office, information regarding prior art of the biological resources, in most of the cases, either the application stood rejected or the patent was granted. Only France, a member of EU, had taken steps to reject patents based on traditional knowledge of Peru.

In the problems encountered, in the majority of cases, no reference was made to the origin of the resource. Other problems included different rules in different countries with regard to third party intervention after granting of patents, reluctance of countries to consider information on prior art even if the information is sent before the granting of the patent, and lack of resources with developing countries for timely detection of all cases of biopiracy.
Providing the source of origin of the resources of inventions based on traditional knowledge is important for determining if the applicant has actually invented the product or has obtained it from knowledge resources of traditional communities.

For enabling a proper implementation of ABS as well as Disclosure Requirement, as mentioned above, databases of traditional knowledge have been suggested as a crucial requirement. Documentation of traditional knowledge and its subsequent availability as prior art is thus being considered as an important means to for disclosure of origin and ABS mechanisms.

5. Documentation of Traditional Knowledge for Prior Art Search

Several countries inclusive of developing and developed have also suggested the creation of a database of known traditional knowledge which is accessible to all Governments and can be used in examining patent claims. The search for prior art is an important aspect of patent system from the point of view of traditional knowledge. They are an important defensive strategy linked to existing IPRs. Prior art is the information that is accessible to the public in written form or through an oral presentation, or, depending on the country, in any other form (Article 8, Draft Substantive patent Law treaty.) In context of patent law, prior art is information that is accessible to the public before the filing date of the application or before the priority date of the application. The accessibility of information with regard to different countries is different. However, it is generally accepted that information is accessible as long as there are no factors that severely restrict access (Standing Committee on the Law of Patents). With regard to prior art, patent applications are judged according to the criteria based on novelty. Since novelty is judged on the basis of existing knowledge in the public domain, this has been of particular concern in case of

traditional knowledge in case of patent applications in the US, because oral publication in a foreign country does not count as proof of prior art in the US. Also patent offices in developed countries are often prone to limit their search to specific information sources, they are not fully informed about possible existence of prior art at other sources. Development of traditional knowledge databases would help to prevent granting of patents on inventions in traditional prior art. This is also important at a time when increasingly low inventive steps are sufficient for patentability.

"Traditional knowledge registers and databases can perform functions related to prior art search. They can be used to document existing public domain knowledge in written form or in a national/international language and thereby prevent appropriation of traditional knowledge through IPR. They can also be used to record knowledge which is not in the public domain. Such registers are not necessarily made available to the public but can serve as proof that specific knowledge exists in a specific area. They also provide basis for benefit sharing claims. These registers can be used to promote the use of existing traditional knowledge among neighboring communities or across countries wherever actors want to function on the basis of the principle of sharing knowledge. Moreover they constitute a basis for claims of ownership in situations where the legal framework offers such protection to traditional knowledge holders. traditional knowledge registers constitute an attractive tool for patent examiners, researchers or private biotech companies. For patent examiners, traditional knowledge registers constitute an easier tool to handle since the knowledge will have been compiled and systematically arranged. For private companies, registers may provide an incentive for commercial research into new products while ensuring that there will be no subsequent dispute on the transparency of access to the knowledge" (Cullet, 2004:339-340).

Though traditional knowledge registers constitute an important tool to provide effective protection against the appropriation of public domain knowledge through IPRs in all jurisdictions, there has been skepticism with regard to its effectiveness at the
international level.\textsuperscript{10} This is because though they constitute an effective tool to stop others from claiming IPRs on existing knowledge they also restrict any future novelty claims by traditional knowledge holders. Thus they make it difficult for traditional knowledge holders to subsequently assert positive control over their knowledge. Registers should also not be considered in isolation from the development of access regimes that should include the principle of PIC whereby it should be ensured that traditional knowledge holders want their knowledge publicized and that they have been identified in the register. There are also concerns regarding the control and use of registers depending on the level at which they are formulated and kept. Registers or databases organized at the national level are far removed from traditional knowledge holders and may be used for vastly different purposes because individuals who control the databases have other priorities and concerns than traditional knowledge holders. (Cullet, 2004:340) Chapter 4 explores the pros and cons of databases and registers as a tool of prior art search. It concludes that while no international binding instrument ensures the confidentiality of such databases, the information available could become subject to misappropriation. It also explores the case study of India where local communities have little or no sovereignty over the registers in regulating PIC before accessing their knowledge.

6. Existing Traditional Knowledge Protection at the National Level

The argument of developed states such as the US and Japan at WIPO and TRIPS and the CBD has often been of ensuring domestic legislation on traditional knowledge protection and individual country experiences as a primary requirement before an international instrument on traditional knowledge protection can be agreed upon. A number of countries have already legislated on certain aspects of traditional knowledge conservation. The section briefly covers the specific measures adopted by some countries. However, traditional knowledge concerns till recently have only been

covered in the context of patent legislations, plant variety legislations and biodiversity legislation like the case of India. Few countries though, have adopted legal instruments focusing on traditional knowledge.

The *sui generis* regime of Peru (Peru:2002) was established by Law no. 27,811 of 2002, whose objectives are to protect traditional knowledge, to promote fair and equitable sharing of benefits to ensure that the use of the knowledge takes place with the prior informed consent of the indigenous peoples, and to prevent misappropriation. Protection is afforded to collective knowledge of indigenous people to biological resources. The law grants indigenous peoples the right to consent to the use of traditional knowledge. The law also foresees the payment of equitable compensation for the use of certain types of traditional knowledge into a National Fund for Indigenous development or directly to the traditional knowledge holders.

The biodiversity law no.7788 of Costa Rica (Costa Rica,2003) aims at regulating access to traditional knowledge. It provides for equitable distribution to traditional knowledge holders of the benefits arising from the use of traditional knowledge. Two scopes of subject-matter are described in the law: First, traditional knowledge to which the law regulates the access and second traditional knowledge for which the law provides exclusive rights. What will be the term and scope of *sui generis* community intellectual rights and who will be the title holder is determined by a participatory process with indigenous and small farmer communities to be defined by the National commission for the Management of Biodiversity.

Portugal’s *sui generis* Decree law no.118 of April 20,2002 is the registration, conservation, and legal custody of genetic resources and traditional knowledge. The law provides protection against the “commercial or industrial and/or use” of traditional knowledge developed by local communities, collectively or individually.(Cullet,2004)

Thailand has enacted the Act on Protection and promotion of Traditional Thai Medicinal Intelligence, B.E 2542. It protects the “formulas” of traditional Thai drugs
and “texts on traditional Thai medicine”. The act confers “those who have registered their intellectual property rights on traditional Thai medical intelligence under the act”-“the sole ownership on the production of the drug and research and development”. (ibid)

There is however a pressure for the establishment of an international *sui generis* system as articulated by the G15 group of countries (G-15 Joint declaration) with such a wide range of material to protect and such diverse reasons for protecting it. However, it may also be that a single all encompassing *sui generis* system of protection for traditional knowledge may be too specific and not flexible enough to accommodate local needs. (ibid)

**7. Conclusion**

The chapter has tried to study protection of traditional knowledge though the use and adaptation of IPRs such as the formation of databases of traditional knowledge as prior art. It has also tried to explore ABS mechanisms which are viewed as efforts to protect traditional knowledge beyond the realm of IPRs, though issues like disclosure of origin link the ABS process to IPRs. In both cases, it appears that protection of traditional knowledge has set developed and developing countries interests as opposed to each other. The inability to amend the TRIPS to include disclosure also reflects the inability to provide for developing countries interests in international trade. Further, while the issue of sovereignty over biological resources is being debated, in international relations it is the state sovereignty that comes into play. Ultimately, domestic legislations too are futile unless an internationally binding regime ensures protection to traditional knowledge. This has been proved with the example of Peru as mentioned above and benefit sharing experiment in India, discussed in Chapter 3. The ABS debate also is a debate that puts advocates of property rights against the advocates of sovereignty rights, reflected in the TRIPS and CBD respectively.

Access and benefit-sharing (ABS) has emerged as one of the most contentious manifestation of the divergence between CBD and TRIPs and consequently between
sovereignty rights and property rights. The highly charged debates on ABS related issues at WTO have contributed to the stalemate in the working of Committee on TRIPs while at the same time, CBD is struggling with acceptable formats for certificates of origin or other possible instruments. Debates related to ABS are so fundamental that they cut across several international organizations like the World Intellectual Property Organization (WIPO), the United Nations Environment Programme (UNEP) and the United Nations Food and Agriculture Organization (FAO) apart from CBD and WTO. Each one is trying to identify contours of ABS according to their respective mandates. However, in the process, it seems, one is missing out on time as several national governments are awaiting international arrangements to emerge so that they can adjust their policies accordingly. Work among all these initiatives on ABS, is taking place at different venues and levels of policymaking. It is not clear at this point as to how that would be sequenced for an optimum solution on all these fronts. Some experts are of the view that among all the institutions involved, WTO seems to be the most effective forum which can certainly ensure enforcement through dispute settlement mechanisms. However, the stalemate at WTO does not seem to end. An overview of the submissions made by the countries reveals the need for the inclusion of the requirements of disclosure of origin of the resource or knowledge into TRIPS in the interest of the developing countries. The developed countries could begin with the establishment of domestic laws that regulate the same. With a number of national laws having incorporated these clauses an action to incorporate it at the international level should not be objected as it adds to the effective implementation of States’ obligations. Establishment of a body working in cooperation with the CBD to keep a check on State compliance is also an open to the international community. The developed countries should not object to it as these rules could be considered as a preferential treatment given to the developing countries which is already recognized within WTO.