

**The Relationship between TRIPS and the Technology
Transfer Provisions under the Convention on
Biological Diversity**

Can parties to the CBD implement the technology transfer
provisions without contravening TRIPS?

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1 Introduction

1.1 General Introduction

Sustainable development including conserving biological diversity (biodiversity) has become a key objective of the international community in recent times. Sustainable development is commonly defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’¹. The conservation and sustainable use of biodiversity are key elements of sustainable development². It has come to the attention of the global community that biodiversity is being lost at a rapid rate³. Consequently steps have been taken to alleviate this problem. The Convention Biological Diversity (CBD) which came into force in 1993 is the principle treaty that States have ratified in an effort to conserve biodiversity.

The CBD aims to conserve biodiversity, sustainably use its components and fairly and equitably share the benefits arising out of the utilisation of genetic resources⁴. Benefit sharing may take many forms, for example through monetary benefits or the imparting of knowledge. Technology transfer (TT) is envisaged as a tool for obtaining the objectives of the CBD and also as a benefit to be shared under the benefit-sharing provisions.

The CBD makes it clear that technology is a key mechanism for objectives of the CBD being, the conservation and sustainable use of biodiversity and benefit sharing. In achieving its objectives the CBD refers to two types of technology: technology which

¹ Brundtland Report, 1987

² Pronk at 5

³ Powers at 103

⁴ Article 1, CBD

conserves biodiversity (usually environmentally sound technology⁵) and technology which sustainably uses the components of biodiversity including using genetic resources (biotechnology)⁶. As is recognised in the CBD such technology may be subject to intellectual property rights. The WTO agreement, Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) governs intellectual property rights providing global minimum standards of protection. Although not specifically stated, it can be implied that TRIPS also recognises technology as playing an important role in the sustainable development of all States⁷. TRIPS recognises that developing countries require a sound technological base and this may be achieved through encouraging developed countries to transfer technology to them⁸.

While these two agreements both recognise the value of technology to sustainable development, their objectives and methods of approaching sustainable development differ. The CBD attempts to achieve this goal through the transfer of technology and while it recognises that intellectual property rights (IPRs) may apply to such technology⁹, States shall ensure that such rights do not interfere with the attainment of the objectives to the convention¹⁰. TRIPS considers it important that IPRs are recognised and enforced in order to foster innovation and encourage TT. Further, the CBD recognises that IPRs may inhibit the transfer of technology and accordingly points out that IPRs should not be used in a manner that runs counter to the objectives of the CBD¹¹ (such as inhibiting TT which is one method of obtaining the objectives). Given these differing approaches it appears that there may be a conflict between the provisions of TRIPS and the CBD. Commentators have pointed out several possible areas of conflict between the two agreements. One such conflict relates to the benefit sharing

⁵ Biotechnology also has a role to play in conserving biodiversity and is common in determining the sustainable use of biodiversity by providing knowledge of genetic resources etc.

⁶ See article 1 and 16, CBD.

⁷ see articles 66 and 67, TRIPS.

⁸ Article 66(2), TRIPS

⁹ Article 16(2), CBD

¹⁰ Article 16(5), CBD

¹¹ Article 16(5), CBD

provisions and technology transfer under the CBD¹² on the one side and the provisions relating to patentability and the exclusive rights granted to the right holders under TRIPS¹³ on the other.

It is important that countries are able to implement the TT provisions under the CBD and obtain the maximum benefit from those provisions in order that the objectives of the CBD are fully carried out. Generally it is developing countries that have the greatest biodiversity and it is generally developed countries that have the technology to exploit that biodiversity in a sustainable manner and conserve it. The CBD envisages a system whereby the developing nations, in exchange for access to their biodiversity, are able to obtain vital technology. However, TRIPS envisages a private property regime whereby the holders of IPRs of such technology have exclusive rights over the technology. It is important to note that there are limited exceptions to the exclusive rights granted to right holders within TRIPS¹⁴. These exceptions may provide States with a necessary loophole in order to implement the CBD.

It is clear that genetic resources are big business with "...genetic resources and their derivatives fetch(ing) prices that range from just a few cents to tens of millions of dollars per kg, and often command prices far higher than standard indicators of value such as gold"¹⁵. Given this fact, if the CBD is implemented to its full extent, both developing and developed nations stand to benefit. The developing nations provide access to their genetic resources in return for the transfer of technology and possibly other benefits. In return for transferring their technology (and providing other benefits) developed States (or firms within the developed states) gain access to the genetic resources which they can use to make a profit.

¹² Article 16, CBD

¹³ Article 27, TRIPS

¹⁴ Article 8,30 and 31, TRIPS

¹⁵ Kate & Laird at 2

Despite the benefits from implementing the CBD “only a few (States) (variously estimated between 12 and 23 countries) have adopted substantive...legislation”¹⁶. It has been thought that “...the primary factor preventing completion and adoption of ...(benefit sharing) legislation was not a lack of interest but rather basic legal inability to develop effective enforceable implementing legislation on the basis of the still-incomplete conceptual development of this issue”¹⁷. It is therefore important that the conflict be resolved in order that the CBD may be implemented in order to carry out its objectives. As noted by Wolfrum:

“The effectiveness of international environmental agreements can be significantly curtailed if conflicts between agreements lead to uncertainty concerning their interpretation and, consequently, their implementation and overall application in the field of international environmental law”¹⁸.

There is potential that the CBD and TRIPS Agreement can complement each other and facilitate the transfer of technology, if the parties are able to implement the provisions under both treaties without breaching the other. It is important that IPRs are protected in order to induce innovation and on the other hand it is important that developing nations have access to technology in order to continue to sustainably develop and conserve biodiversity.

1.1.1 Outline

This paper addresses the issue of the possible conflict between the TT provisions in the CBD and the IP rights protected by TRIPS. The purpose is to determine whether or not a conflict actually exists and to suggest ways in which developing countries may implement the TT provisions of the CBD without violating their obligations under TRIPS.

¹⁶ Young at 5

¹⁷ Young, T, “Synthesis: The Results and Conclusions of the ABS Project’s First Year of Work in - Preparation for COP-7 and the International Regime”, 2002 in Young at 5

¹⁸ Wolfrum & Matz at 3

Section 2 of this paper provides some background information on TRIPS, the CBD and the importance of TT. It also discusses the issue of defining a conflict. Section 3 discusses whether a conflict between the TT provisions of the CBD and provisions of the TRIPS do in fact exist. It will also be explored as to whether the potential conflict can be resolved through interpretation or reconciliation thereby avoiding the need to explore traditional conflict resolution techniques such as those outlined in article 30 of the Vienna Convention on the Law of Treaties. Section 4 makes suggestions of ways in which developing countries may proceed to implement the TT provisions of the CBD without violating TRIPS. Two methods are suggested: implementing national legislation and entering into private agreements.

TRIPS relates to many types of IPR protection including patents, trademarks, copyright, geographical indications and others. Other forms of intellectual property protection also exist such as through the use of trade secrets and plant breeder rights. I have chosen to focus upon the use of patents as patents are commonly used to protect biotechnology and other technologies that relate to the conservation and sustainable use of biodiversity. It is possible, however, to apply the same arguments presented to other types of IP protection mentioned in TRIPS.

The aim of the paper is to focus upon ways in which state parties to the CBD may implement the provisions of the CBD without violating their obligations under TRIPS. In light of this purpose, the focus of the paper is on the perspective of the WTO and how it might interpret TRIPS in light of the CBD. If a dispute arose, it is likely that such dispute would be brought before the WTO dispute settlement body on the grounds that provisions of the TRIPS have been violated by the State¹⁹.

¹⁹ It is also entirely possible that a State is hiding behind their obligations under TRIPS as an excuse not to implement the provisions of the CBD and therefore perhaps that State is breaching the CBD. However, I have chosen to focus upon the situation of a State which implements the provisions of the CBD. In doing so, it will be shown that it is possible to implement the CBD without violating TRIPS and accordingly States who argue that their obligations under TRIPS prevent the implementation of the CBD are in actual fact breaching their obligations under the CBD.

1.1.2 Methodology

I have taken primarily a doctrinal approach analysing the literature written on the topic including reports of International organisations and other sources such as textbooks and journal articles. Further I have relied upon primary materials, namely the legal texts of the CBD and TRIPS. I have also considered jurisprudential findings of international courts and the WTO Dispute Body.

2 Background

2.1 The purpose of TRIPS and its impact on Technology Transfer

The aim of TRIPS as set out in the preamble is to provide effective and adequate protection of intellectual property rights to reduce distortions and impediments to trade. TRIPS envisages that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology²⁰.

Under TRIPS a holder of an invention or process is given the exclusive right to exploit that invention/process for a specified period of time. In return for that exclusive right the holder must disclose the formula or idea behind the product/process²¹. “The stated purpose of IPRs is to stimulate innovation by offering higher monetary returns than the market otherwise might provide”²². It is also stated that the exclusivity the holder has is in order for that person to recoup their costs of research and development. Thus IPRs, in theory, encourage innovation and the sharing of information.

According to the WTO Committee on Trade and Environment, IPRs are protected for 6 main reasons being, 1. encourage and reward creative work, 2. technological innovation, 3. fair competition, 4. consumer protection, 5. transfer of technology and 6. balance of rights and obligations²³. The theory is that if inventors are able to prevent others from copying their inventions and are rewarded for those inventions they are more likely to

²⁰ See article 7 TRIPS

²¹ Walker at 9

²² Kothari and Anuradha at 3

²³ see http://www.wto.org/English/tratop_e/envir_e/envir_backgrnd_e/c5s4_e.htm

continue developing/innovating and will share their ideas with others who can then improve upon them. It is argued that without the protection of IPRs the holders of IPRs would have no incentive to invent and/or would not share their knowledge. The sharing of knowledge leads to further developments at a more rapid pace than might otherwise have been.

There is evidence to suggest that the granting of IPRs does in fact stimulate innovation in developed countries²⁴. There is, however, little evidence that it stimulates innovation in developing countries²⁵. The reason for this may be that developing countries lack the necessary resources, have weak technological capacity, and little knowledge and expertise for innovation²⁶.

According to the IPR Commission: “The conferring of IP rights is an instrument of public policy, which should be designed so that the benefit to society (for instance through the invention of a new drug or technology) outweighs the cost to society (for instance, the higher costs of a drug and the cost of administering the IP system)”²⁷. TRIPS attempts to do this by granting private rights to IPR holders but also recognizing that public interests must be protected. Such public interests include the protection of public health and nutrition and the promotion of sectors of vital importance to their socio-economic and technological development²⁸. Public interests may also include the conservation and sustainable use of biodiversity as a means of sustainable development.

There are arguments that TRIPS has not achieved its objective of balancing public and private rights. In recent years the IPR regime has become stronger. “.. the level, scope, territorial extent, and role of IP protection have expanded at an unprecedented pace.... IP rights have been modified or created to cover new technologies, particularly

²⁴ An example of this is the US’s Bayh Dole Act “which allowed universities to retain profits flowing from the exercise of patent rights, which resulted in an increase in the number of patent applications by encouraging inventiveness” (Curci, 2005 at 41)

²⁵ See IPR Commission at 4

²⁶ Ibid

²⁷ ibid at 3

²⁸ see Article 8, TRIPS

biotechnology...”²⁹. An example of this expansion includes the patenting of the Onco-mouse, a genetically engineered mouse created for the purpose of cancer research³⁰. The stronger IPR regime has seen a more favorable approach taken towards technology holders while users are ignored³¹. That is by granting such wide private rights to the IPR holder, they are able to raise the costs of the product thereby ignoring the rights of the user for example to the necessities of life for example food or to life saving medicines³².

Walker is of the view that stronger IPRs “could result in barriers to technology transfer in three ways:

1. Strong IPR protection can lead to high prices for technology;
2. strong protection can allow technology holders to negotiate conditions for transfer that are unfavourable to technology users and may even amount in anti-competitive practices; and
3. strong protection can provide technology holders with the means to exclude technology users from accessing technology”³³.

There are arguments also that a strong IPR regime encourages the transfer of technology. TRIPS, therefore, has an important role to play in relation to the transfer of such technology.

“In theory, guaranteed protection of IPRs could encourage risk-averse technology holders to set up joint ventures or wholly-owned subsidiaries in another country through which technology might be transferred. Alternatively, IPR protection can encourage companies to seek technology partners in other countries through the negotiation of

²⁹ IPR Commission at 1

³⁰ A patent was granted in the USA to Harvard University for its genetically modified mouse, the Onco-Mouse. This was the first time that a genetically modified animal was considered to be an invention and allowed the patenting of life forms. Other countries have followed this lead. (Curci,2002, at 10).

³¹As an example pharmaceutical companies are able to charge high prices for their products and enforce their rights to prevent others making cheap generic versions, ignoring the need of the public (the users) who require the product for their health but cannot afford to pay.

³² see IPR Commission at 3

³³ Walker at 18

licensing agreements. In particular, strong IPR Protection could encourage small and medium- sized companies that lack the resources to set up subsidiaries off-shore and so rely on licensing IPRs to introduce technology to new markets”³⁴.

There is some doubt, however, as to whether the IPR protection provided by TRIPS has in fact contributed to the increased transfer of technology³⁵. According to an UNCTAD study on TRIPS and developing countries:

“To date, there is little conclusive evidence that strengthened intellectual property protection would consistently expand the transfer of technology to developing countries. Key determinants of TT (through FDI and through arm’s-length licensing) include the costs of making such transfers, which depend on local technological capability. This capability refers to factors such as skill availability, technology supply structures, R&D capacity, enterprise-level competence and institutional and other supporting technological infrastructures”³⁶.

There are provisions within TRIPS which aim at preventing IPRs from being monopolized in a manner contrary to the objectives of TRIPS and particularly in a manner which excludes TT. Article 8(2) provides that “appropriate measures... may be needed to prevent ... the resort to practices which ... adversely affect the international transfer of technology”. Further, Article 31 of TRIPS allows for compulsory licensing in certain circumstances. Some have argued that it “holds significant potential for the protection of public interest... for gaining access to new technologies necessary for development”³⁷. Article 66(2) of TRIPS also provides that developed countries shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging TT to least-developed countries in order to enable them to create a sound and viable technological base. The extent of the implication of this provision is unsure. Further, even if developed states provide the incentives there is nothing compelling institutions or enterprises to take up the incentive.

³⁴ Ibid at 17

³⁵ Walker at 15-16

³⁶ UNCTAD: 1996 “TRIPS and developing countries”. New York and Geneva: UNCTAD at 18 in Khor at 89

³⁷ Walker at 19

There are many differing views as to the extent that IPR protection encourages the transfer of technology. It is generally recognized that some form of IPR protection is necessary as IPR holders are less likely to be willing to transfer their technology if there is a possibility that their invention could be copied. It is possible to strike a balance between the rights of the IP holder and the rights of the user. The way in which TRIPS is implemented will play an important role in reaching this balance.

2.2 The Purpose of the CBD and the importance of Biodiversity

The CBD aims to conserve biodiversity and ensure the sustainable use of its components. Biodiversity is defined in the CBD as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”³⁸.

Biodiversity is important to the continued survival of humankind as biodiversity provides a large number of goods and services that sustain our lives³⁹.

“The most widely accepted definition for conservation of biodiversity, presented in 1980 in World Conservation Strategy by the International Union for Conservation of Nature and Natural Resources, is “the management of human use of the biosphere so that it may yield the greatest sustainable benefit while maintaining its potential to meet the needs and aspirations of future generations”⁴⁰.

Human life on earth is intertwined with other life (both plant and animal) and all forms of life are dependent upon each other. The loss of biodiversity can lead to unstable environments and further losses of biodiversity. For humans the loss of biodiversity can

³⁸ Article 2, CBD

³⁹ Convention on Biological Diversity Homepage <http://www.biodiv.org/doc/publications/guide.asp>

⁴⁰ Variety of Life, Biodiversity Web, p. 2 available at www.biodiversity.nl. Biodiversity.htm in Curci Staffler, 2002, at 9

lead to food shortages and a loss of resources which we rely upon for medicines, shelter, transportation, income and other life sustaining resources⁴¹.

The preamble to the CBD provides essentially that the parties have recognized that the conservation of biological diversity is a common concern of humankind and further that it is integral to maintaining life supporting systems as well as having educational, recreational, social, economical, scientific, aesthetic, etc value. For those reasons and more mentioned in the preamble the parties to the CBD have agreed to carry out the objectives of the agreement. The CBD has three main objectives: the conservation of biological diversity, the sustainable use of its components, and fair and equitable sharing of benefits arising out of the utilization of genetic resources⁴². Conservation is not defined in the CBD but is generally understood to mean the steps taken to protect biodiversity. The CBD defines two types of conservation, being in situ conservation and ex situ conservation. Ex-situ conservation is defined to mean “the conservation of components of biological diversity outside their natural habitats”⁴³. An example of ex-situ conservation is a zoo or seed storage. In-situ conservation is defined to mean “the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties”⁴⁴. Sustainable use is defined in the Convention to mean “the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations”⁴⁵. “Some of the basic features of sustainable use include: monitoring of use, management on a flexible basis attuned to the goals of observing biological unity, adopting a holistic ecosystem approach, restoring areas of depleted biodiversity, adoption of both an integrated and a

⁴¹ Environmental Law Institute Research Staff (ELI) at 1

⁴² See Article 1 CBD

⁴³ Article 2, CBD

⁴⁴ Ibid

⁴⁵ Ibid

precautionary approach; ensuring inter-generational equity, basing measures on scientific research”⁴⁶.

According to Venbrux:

“The CBD approaches conservation based on the theory that what is perceived as having economic value tends to be used more efficiently, thus promoting the sustainable use of depletable resources. Consequently, the CBD seeks to conserve resources through economic incentives and other market mechanisms”⁴⁷.

TT is perceived to be a main mechanism for achieving the objectives of the CBD⁴⁸. TT has a role to play in the conservation and sustainable use of biodiversity and further can be shared as a benefit arising out of the utilisation of genetic resources. TT may assist in sustainable use of biodiversity by providing a means, for example, for replenishing resources. According to Walker,

“Implementing the objectives of the CBD ... relies on the protection and use of knowledge, including knowledge of genetic material, knowledge of technology, or the knowledge of indigenous and local communities regarding biological diversity. Consequently, IPRs, including those required by TRIPS, may affect the implementation of the CBD”⁴⁹.

IPRs have an important role to play in the implementation of the CBD, especially in relation to the access and benefit sharing provisions⁵⁰ (article 15) and in the TT provisions (article 16). Article 15 of the convention provides that each party has sovereign rights over their natural resources and the authority to determine access rests with the sovereign state. In return for providing access to its genetic resources the benefits arising out of the utilization of these resources have to be shared equitably. Namely the convention asks for participation in research work and the shifting of such

⁴⁶ Birnie & Boyle at 576

⁴⁷ Venbrux at 4

⁴⁸ See article 1, CBD which states the objectives of the convention which are to be achieved “by appropriate transfer of relevant technologies...”.

⁴⁹ Walker at 32

⁵⁰ Dross and Wolf at 102

activities to the countries of origin, for TT, and for participation in the results and benefits of genetic resources. In regards to this section IPRs come into play in relation to knowledge used and gained in research work, technology which is to be transferred and in relation to other benefits such as royalties received from a patented product which resulted from genetic resources.

Article 16 of the Convention provides that each contracting party undertakes to provide and/or facilitate access for and transfer to other contracting parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources. There seems to be some conflict within article 16 itself with article 16(2) stating that the access to and the transfer of technology shall be provided on terms that recognize and are consistent with the adequate and effective protection of IPRs while article 16(5) states that parties shall cooperate to ensure that IPRs are supportive of and do not run counter to the objectives of the CBD. As pointed out by Venrux: “Controversially, article 16(5) acknowledges the importance of intellectual property rights but seems to give priority to the transfer of technology”⁵¹.

It is these articles which have caused the most controversy between developed and developing nations⁵². In negotiating these provisions a compromise between the desires of the developed nations and the desires of the developing nations had to be reached.

B.E. Tewolde of Ethiopia (a key negotiator) stated that article 16 is

“... a complex article because it resulted from the conflicting interests of the North, which wanted to hang on to its advantages in biotechnology, particularly genetic engineering, and the biodiversity-rich South, which wanted TT in exchange. The North insisted that TT should be linked to the Northern form of IPRs in order to protect the interests of their private sectors, particularly their transnational corporations.

Conversely, the South wanted to make sure that IPRs do not damage the prospects for the conservation and sustainable use of its biodiversity, and insisted on the inclusion of paragraph 5”⁵³.

⁵¹ Venrux at 5

⁵² Ibid at 4

⁵³ Khor at 53

The TT provisions and benefit sharing provisions play an important role in the sustainable use and conservation of biodiversity. The world's population is increasing at a rapid rate meaning that the demand for food is increasing. It is the developing nations that have the greatest number of people without an adequate amount of food. A reason for this may be that developing states lack the technology to exploit their biodiversity in a sustainable manner. Through the use of technology and especially biotechnology it is possible to increase the amount of food produced, for example through pest resistant plants or plants that are able to survive with little water. The transfer of such technology to developing nations in exchange for access to their genetic resources could give these nations the ability to produce more food. "It is only the innovation in terms of recent research in the field of biotechnology in the field of agriculture, horticulture and forestry that can pave the way to increased production"⁵⁴. It is the provisions for TT under the CBD which may assist in this regard particularly if those provisions are not inhibited by IPRs.

Overall,

"the Convention can be seen as an instrument to promote the equitable exchange, on mutually agreed terms, of access to genetic resources and associated knowledge in return for finance, technology and the opportunity to participate in research"⁵⁵.

2.3 The Importance of Technology Transfer

Technology is not defined within either TRIPS or the CBD. The CBD does make mention that technology includes biotechnology⁵⁶. Van Houtte considers that

"technology is commonly understood as meaning systematic and practical applied technical knowledge which is required or useful for the manufacturing of products, for the application of operating procedures or production of processes, or even for the performance of services"⁵⁷.

⁵⁴ Curci, 2002, at 8

⁵⁵ Kate & Laird at 4

⁵⁶ Article 2

⁵⁷ Van Houtte at 203

Lesser considers that technology is “the application of knowledge to solving specific problems or meeting identified needs”⁵⁸.

The transfer of technology has been considered to mean “simply the movement of technologies to additional applications; transfer may be geographic (the general concept) but could also refer to a different product application in the same location”⁵⁹. TT may be affected in a number of ways “including through assignment of the property rights in the technology, by granting a licence, through foreign direct investment, and franchising and/or turn-key contracts”⁶⁰.

According to Lesser, “technology is a means to achieve the objectives (of the CBD), and TT is a means to provide technologies where needed”⁶¹. In particular the transfer of technology, both biotechnology and EST, is important in assisting developing nations to develop in a sustainable manner⁶². In addition TT may also be a benefit obtained under the benefit sharing provisions of the CBD. In exchange for access to a country’s genetic resources the accessor must enter into benefit sharing.

TRIPS also recognises the importance of TT to the development of developing countries⁶³. However, there is some doubt as to how successful this provision has been in encouraging TT and the actual transfer of technology to developing countries has been low.

“Experience has shown that TRIPS tends to promote the importation of biotechnological products and processes into developing countries. Large pharmaceutical corporations from developed countries often apply for patents in developing countries but will not

⁵⁸ Lesser at 2

⁵⁹ Ibid

⁶⁰ Van Houtte, Hans at 204 and 213

⁶¹ Lesser at 3

⁶² Khor at 87. It should also be noted that biotechnology may be harmful to biodiversity and consequently sustainable development. This may be through creating mono-cultures (by new ‘super breeds’ of plants wiping out traditional breeds). In addition the impact of genetically modified organisms on the environment is not yet clearly known.

⁶³ Article 66(2), TRIPS

physically establish production facilities or research labs inside host countries. Patented products, not the technology needed to create them, tend to be transferred, thus defeating the capacity-building goals of article 66.”⁶⁴.

It is widely recognised that technology is particularly important for developing nations as they go through the stages of development. In particular technology is important to ensure that developing countries develop in a sustainable manner. The Brundtland Report of 1987 considered that the “promotion of sustainable development was strictly linked to the development and diffusion of new technologies, especially in the agricultural/forests fields, in the use of energy and in pollution control systems”.

“More precisely, the Report acknowledged the fact that technology is a powerful tool for reducing the effects on the environment caused by human activities, and the need was strongly pointed out to carry out the proposals through international exchange of technology, by means of trade in improved equipment, TT agreements, provision of experts and research collaboration”⁶⁵.

It is crucial for the success of the CBD that developing nations have access to technologies which assist in the conservation and sustainable use of biodiversity. If technology is transferred to developing countries as a benefit in exchange for access to their genetic resources, then both article 15 compelling benefit sharing and article 16 calling for TT have been fulfilled. That is that a benefit has been shared (the technology) and also technology has been transferred as the host country now has access to and the use of that technology.

⁶⁴ Ritchie, Mark, et al. “Intellectual Property Rights and Biodiversity: The Industrialisation of Natural Resources and Traditional Knowledge” (1996) *11 St John’s Legal Comment* 431 at 439 in Venrux at 6

⁶⁵ Munari, Francesco. “Technology Transfer and the Protection of the Environment” in Francioni at 158

2.4 What is a Conflict?

“Conflicts between regulations within the same legal system are problematic, from a policy point of view, because they interfere with the coherence and, as a result, the efficiency of the respective legal system”⁶⁶. Accordingly it is preferable that conflicts do not occur in the first place, however, it is not always possible to avoid such a situation. This is possibly even more problematic in the international legal system which to some extent is fragmented. Conventions are generally negotiated in isolation and today we find conventions covering a wide range of subject matters. Accordingly, overlaps in subject matters occasionally occur.

Defining a “conflict” and consequently determining if a conflict exists between two norms has caused many difficulties. There is no clear agreement as to what constitutes a conflict and commentators have differing opinions about the definition of a conflict.

According to Pauwelyn some preconditions must exist for a conflict to arise. He considers that firstly the subject matter and the parties bound by the two treaties must not be completely different; “there must be at least some overlap in terms of subject matter and some overlap in terms of state parties”⁶⁷. The treaties must also exist or interact at the same time. Secondly, he states that “one must approach conflict from the perspective of a given state...If it is bound by one of the two rules, there can be no conflict, at least not from the perspective of that particular state or body... in addition, (one) must assess conflict in terms of a legal relationship of that given state with a given other state”⁶⁸. Accordingly, a State faces a potential conflict if it has ratified two treaties which have the same subject matter and it now must form a relationship with another state in fulfilling its obligations.

If the pre-conditions are in existence then a potential conflict may arise but is there in fact a real conflict? Defining “conflict” has been approached in basically two different

⁶⁶ Wolfrum at 1

⁶⁷ Pauwelyn at 165-166

⁶⁸ Ibid

ways: a strict/ narrow approach and a broader approach. The strict/narrow approach was taken by Jenks who defined conflict as arising “only where a party to the two treaties cannot simultaneously comply with its obligations under both treaties”⁶⁹. As an example of the broader definition, Aufricht stated “ a conflict between an earlier and a later treaty arises if both deal with the same subject matter in a different manner”⁷⁰. Further to the broad approach Sir Humphrey Waldock in preparing article 30 of the Vienna Convention stated “the idea conveyed by that term [conflict] was that of a comparison between two treaties which revealed that their clauses, or some of them, could not be reconciled with one another”⁷¹. Pauwelyn considers that defining conflict narrowly solves the problem of the conflict merely by the definition of conflict and not by a rule on how to solve the conflict. His work focuses more on how to solve a conflict then by specifically defining what it is⁷².

Wolfrum and Matz define a conflict in a strict sense as relating “to the incompatibility of two legal norms. That is to say that one obligation cannot be fulfilled without necessarily violating the other”⁷³. They have attempted to broaden that definition by stating that:

“divergences or inconsistencies without establishing contradicting, absolute obligations... (which theoretically) could be made compatible without abolishing the substantive content of either of the regulations.... Even these more broadly defined conflicts, particularly if the number of potential collisions is taken into account, may have the same negative effects as the more narrowly defined conflicts. Since contradictions can.... diminish the potential effectiveness of international environmental law...”⁷⁴.

⁶⁹ Jenks, Wilfred, ‘Conflicts of Law-Making Treaties’ (1953) 30 BYIL 401 at 426 in Pauwelyn at 167

⁷⁰ Aufricht, Hans, ‘Supersession of Treaties in International Law’ (1952) *Cornell Law Quarterly* 655 at 655-6 in Pauwelyn at 168

⁷¹ Waldock, Sir Humphrey. YBILC 1964, vol.1, p. 125 in Pauwelyn at 168.

⁷² See Pauwelyn at 170-171

⁷³ Wofrum & Matz at 6

⁷⁴ Ibid

Sadat-Akhavi states that a conflict of norms arises “when it is impossible to comply with all requirements of two norms. The impossibility of complying with two norms implies that the norms are mutually exclusive; they cannot coexist in a legal order. Compliance with one norm entails non-compliance with the other”⁷⁵. He goes on to further clarify by providing:

“A conflict of norms arises when two norms cannot be complied with by all addressees of the norm, at all times and in all spaces covered by the norm, with regard to all objects of the norm, and under all conditions specified by the norm. In other words, to prove that two norms are conflicting it suffices to show the impossibility of compliance with the norms at least for one person or at one time or in one place with regard to one object or under one condition”⁷⁶.

The WTO panel has also had cause to discuss the issue of defining a conflict, however, it too has not reached a decisive conclusion on what constitutes a conflict. In the *EC-Bananas* case, the WTO panel defined conflict as including the following situations:

“(i) clashes between obligations contained in GATT 1994 and obligations contained in agreements listed in Annex 1A, where those obligations are mutually exclusive in the sense that a member cannot comply with both obligations at the same time and (ii) the situation where a rule in one agreement prohibits what a rule in another agreement explicitly permits”⁷⁷.

The *EC-Bananas* case recognised that it was possible to avoid a conflict in a situation where one article of a treaty permitted an action and the other prohibited the same action by simply not exercising the permission. However, it went on to state that

“...such an interpretation would render whole Articles or sections of Agreements covered by the WTO meaningless and would run counter to the object and purpose of many agreements listed in Annex 1A which were negotiated with the intent to create rights and obligations which in parts differ substantially from those of the GATT 1994.”⁷⁸.

⁷⁵ Sadat-Akhavi at 5

⁷⁶ Ibid at 7

⁷⁷ *European Communities – Regime for the Importation, Sale and Distribution of Bananas* (WT/DS27) (25 September 1997) at para. 7.159 in Pauwelyn at 190

⁷⁸ *EC-Bananas* at Footnote 728 in Pauwelyn at 191

It must be noted, however, that the WTO Panel and the Appellate Body have not always followed this view. In the *Indonesia-Autos Case*⁷⁹ the panel “did not consider a situation of an obligation contradicting a right to be a conflict”⁸⁰. The Panel provided a definition of conflict in the following terms: “under public international law a conflict exists in the narrow situation of mutually exclusive obligations for provisions that cover the same type of subject matter”⁸¹.

Both Pauwelyn and Sadat-Akhavi distinguish between the existence of real and false conflicts. To distinguish a real conflict from a false conflict the method of interpretation of treaty norms⁸² and the reconciliation test as proposed by Sadat-Akhavi can be applied⁸³. In relation to interpretation Sadat-Akhavi states that “the vagueness of norms may well give the impression that there is a conflict between them, but upon interpretation they may prove not to be conflicting”⁸⁴. Wolfrum and Matz suggest using treaty interpretation as a means of harmonising treaties.

“If two treaties can be brought into harmony by an interpretation that coordinates their contents, those mechanisms that establish the priority of one of the treaties, e.g. *lex posterior* rule, do not have to be invoked. The rules of interpretation as codified by the Vienna Convention form the basis of the harmonising approach to the interpretation of international agreements”⁸⁵.

The process of reconciliation is that of “trying to prove the compatibility of two norms”⁸⁶. Sadat-Akhavi proposes a test for reconciliation as follows: “Two norms are reconcilable when there is at least one way of complying with all their requirements”⁸⁷.

⁷⁹ *Indonesia – Certain Measures Affecting the Automobile Industry* (WT/DS54), (WT/DS59), (WT/DS64) (02 July 1998)

⁸⁰ Pauwelyn at 193

⁸¹ *Indonesia- Autos* at para 14.99 in Pauwelyn at 193

⁸² See Pauwelyn at 245 and Sadat-Akhavi at 25

⁸³ Sadat-Akhavi at 25

⁸⁴ Sadat-Akhavi at 25

⁸⁵ Wolfrum & Matz at 133

⁸⁶ Sadat-Akhavi at 34

⁸⁷ *Ibid*

By attempting to interpret the two norms or reconciling them, an apparent conflict may be resolved. A real conflict, on the other hand, will not be resolved by interpretation or reconciliation and it will be necessary to look other methods of resolving the conflict such as article 30 of the Vienna Convention on the Law of Treaties.

It is clear that there is not one settled definition of “conflict”. For the purposes of this paper, I define “conflict” in a similar way to that of Pauwelyn. That is, a conflict may arise where it is impossible to implement two norms without the implementation of one constituting or leading to, or possibly leading to a breach of the other⁸⁸. A conflict therefore arises where the implementation of the norms of one treaty mean that the norms or objectives of another treaty are violated. It may be a potential conflict exists between two treaties, however, if through methods such as interpretation the two treaties can be harmonised then a real conflict is avoided.

Many authors have distinguished between real and false conflicts, however, I prefer to think of them as potential and real in the sense that potential conflicts are a conflict but it is easily remedied through the interpretation of the provisions. To determine if a real conflict exists between the two norms it is first necessary to look to the treaties and determine if a conflict clause within the treaties may apply. Further a real conflict may be avoided through interpretation or reconciliation. A real conflict will arise only if interpreting techniques or reconciliation does not resolve the potential conflict. If a real conflict exists then conflict resolving techniques become necessary. For example it would be necessary to look to Article 30 of the Vienna Convention to see which treaty takes precedence and/or more seriously require amendment to the treaties to remedy the conflict.

⁸⁸ Pauwelyn at 176

3 Relationship between Intellectual Property Rights, Technology Transfer and Biodiversity

IPRs, TT and biodiversity are interrelated. IPRs provide private property rights to the holders/inventors of technology (including biotechnology and EST) while technology and the transfer of same is an important method of conserving and sustainably using biodiversity. The CBD contains provisions relating to IPRs in the form of requiring parties to provide access and/or the transfer of technology which relates to the conservation and sustainable use of biodiversity. Further the transfer of technology may be considered as a benefit which maybe transferred in return for access to genetic resources. The CBD “requires member states to pass legislation and make policy decisions requiring a biotech innovator to transfer a portion of the benefits and technology derived from genetic resources to the resource provider country”⁸⁹. This requirement therefore necessarily brings in the issue of IPRs and the application of TRIPS.

The CBD and TRIPS have possibly conflicting areas.

“An essential tenet of TRIPS is ... that intellectual property consists of private rights. On the other hand, one of the basic principles of the CBD is that states have sovereign rights over their natural resources, thus subordinating private rights, such as intellectual property rights, to the public objectives of the agreement (CBD Preamble). As a result, there is much debate on the existence of an intrinsic conflict between the objectives of CBD and the objectives of TRIPS”⁹⁰.

⁸⁹ Power at 118

⁹⁰ Bernasconi-Osterwalder et al. At 308

Khor and many other authors consider that there are several ways in which strong IPRs can hinder access and transfer of technology to developing countries⁹¹. However, it is difficult to assess the many impacts of IPRs on biodiversity⁹². Munari has pointed out that:

“for many environmentalists, TRIPS is seen as one of the enemies of EST (and biotechnology) transfer: not only are patents largely owned by firms in industrialised countries, but their superior technological skills put them at a competitive advantage vis-à-vis (firms of) developing countries in respect of the patentability of new technology. This is particularly true of “biotechnologies”: these are patents developed through prospecting activities in the developing countries using knowledge or genetic resources, which were generally available at no cost to the local population. When these knowledge or resources are patented, then their use by the local population may be restricted”⁹³.

Some of the impacts of IPRs on TT include the following⁹⁴: Firstly IPRs generally increase the price of technology which could put such technology out of the reach of developing countries which generally do not have the resources available to pay for such technology. This also stifles the innovation of the developing country as it does not have access to the technology to work from. Secondly, the IPR holder has the right to deny a developing country access to the technology or impose onerous conditions which makes it difficult for the developing country to make use of the technology. Thirdly the use of IPRs can restrict farmers who traditionally have “innovated on seeds through re-use, exchange with other farmers and other means”⁹⁵. IPR regimes discourage particularly the exchange of seeds where the IPR holder does not obtain any compensation for the use of their seeds by a third party. “Farmers may also be forced to adopt the homogenous and genetically narrow base of modern agriculture, and be unable to further improve for their own purposes even the seeds or livestock they buy”⁹⁶. This restriction

⁹¹ See Khor at 90 and Munari in Franscioni at 171

⁹² Kothari & Anurdaha , 1999, at 5

⁹³ Munari in Franscioni at 171

⁹⁴ Khor at 90 and Kothari & Anurdaha (1999) at 5

⁹⁵ Kothuri & Anuradha (1999) at 5

⁹⁶ Kothari & Anuradha (1997) at 5

on farmers would increase the economic burden on them and could also cause a loss of biodiversity.

In a strict legal sense IPRs could hinder the transfer of technology through the strict enforcement of exclusive rights granted to IPR holders. In a strong IPR system, a right holder may be able to abuse their exclusive rights and the monopoly which they have by refusing to transfer technology, demanding high prices and/or imposing onerous conditions for the transfer of their invention.

As a hypothetical example of when IPRs may hinder the transfer of technology, let us imagine that an American farming company, using the properties of a plant found in the Sahara, has come up with the technology to extract clean water straight from the air even in times of drought⁹⁷. The American company is granted a patent over the invention. Such an invention would be extremely useful to many drought stricken countries including the country from which the American company took the plant which provided the basis for the invention. As the American company owns the patent it has the exclusive rights to provide the technology to third parties including determining the terms on which it may provide the technology and the price it may charge for such. A developing country which would like the technology is not able to obtain it due to the fact that the price of the invention is out of its reach and further the terms upon which the American company is willing to sell the technology are demanding and unfavourable to the developing country. In addition, if the State or the people of the developing country were to use the invention without permission of the American company they would be subject to penalties.

Khor provides an example of the impact on IPRs on TT in a case study of the Montreal Protocol. TT is necessary for the parties to carry out their obligations under the protocol⁹⁸. A study on the effects of IPRs concluded that

⁹⁷ Whether such an invention already exists (or is actually possible), I am not sure, however, it just a hypothetical situation.

⁹⁸ Article 10, Montreal Protocol provides for TT.

“efforts at acquiring substitute technology have not been successful as the technologies are covered by IPRs and are inaccessible either on account of high prices...and/or due to the conditions laid down by the suppliers. This would require domestically owned firms to give up their majority equity holding through joint ventures or to agree to export restrictions in order to gain access to the alternative technology”⁹⁹.

In this case it was found that there were only a few companies that had the patent rights and trade secrets over alternatives to CFCs which meant that those companies were able to demand high prices or make demanding conditions¹⁰⁰.

A similar situation could arise in relation to implementing the CBD. In order to achieve the objectives of the CBD, it is important that contracting parties have access to and/or the transfer of technology¹⁰¹. IPR holders may impose onerous conditions or demand high prices for this technology thereby inhibiting the ability of parties to fully carry out the goals of the CBD. However, there is a difference between the CBD and that of the Montreal Protocol in that developing countries have a bargaining tool under article 15 of the CBD which recognises that States have sovereign rights in their genetic resources and national governments have the authority to determine access to those resources. A contracting party may be able to gain access to or the transfer of technology as a benefit in exchange for access to its genetic resources¹⁰².

⁹⁹ Watal, Jayashree, 1998. "The issue of technology transfer in the context of the Montreal Protocol: Case Study of India" in Khor at 93

¹⁰⁰ Khor at 93

¹⁰¹ Article 16(1), CBD

¹⁰² Although a host country has the authority to grant access (under article 15) there may still be difficulties in regulating access and therefore bio-piracy may still occur. To some extent article 15 has attempted to overcome that problem through requiring access to be granted on mutually agreed terms, with the prior informed consent (PIC) and the full participation of the host country. Although PIC is required under the CBD it is not a requirement for patentability under the TRIPS. Accordingly, a bio-pirate is able to patent their invention in accordance with TRIPS but is violating the CBD. The solution to this problem remains in question. It has been proposed that the patentability provision of TRIPS (article 27) needs to be amended.

There are many arguments that IPRs may hinder TT, however, it must be borne in mind that there are both negative and positive impacts of IPRs on TT. As pointed out by Bernasconi-Osterwalder:

“Intellectual Property may act as an economic incentive for conserving biological diversity. The patenting of products and processes based on information encoded in genetic resources has enabled the commercialisation of products developed on the basis of that information, including new crop and plant varieties, pharmaceuticals, herbicides and pesticides, as well as new biotechnological products and processes. Consequently, as acknowledgement of the significance of biodiversity has increased in the past decades, so too has its commercial value.

...increasing pressure by commercial interests to gain intellectual property over genetic resources can also negatively affect the conservation of biodiversity... economic and commercial rights such as intellectual property rights may be inadequate to protect the various facets of biodiversity and its numerous stakeholders and may in some cases even impair appropriate protection by other means”¹⁰³.

Those who support strong IPRs have suggested that strong protection should in fact encourage TT. If the holder of the IPR feels that their rights are fully protected and there is little risk that their IP will be copied and/or used without their permission then they are more likely to transfer technology. The objective of TRIPS is in fact that IPRs “should contribute to ... the transfer and dissemination of technology...”¹⁰⁴.

The CBD provisions on TT have attempted to address IPR issues in order to enable the objectives of the CBD to be achieved. However, the issue has been raised that these provisions could in fact be in contravention of TRIPS; or further that a developing country is not able to implement the provisions under the CBD without contravening the TRIPS.

¹⁰³ Bernasconi-Osterwalder et al. at 306. Biodiversity may be protected through an ecosystem approach,, conservation of natural habitats and/or conservation of species. As an example nature conserves (protected areas) are a way of protecting an ecosystem. Biotechnology can be used to gain knowledge of biodiversity which can assist in conserving it. Biotechnological processes are particularly relevant to ex-situ conservation.

¹⁰⁴ Article 7, TRIPS

3.1 Is there a Conflict between TRIPS and CBD in relation to Technology Transfer?

The potential conflict that exists between the CBD and TRIPS in relation to TT arises between the provisions in the CBD relating to TT as a means of benefit-sharing¹⁰⁵ and as a means of achieving the objectives of the CBD¹⁰⁶ on the one hand and the patentability criterion¹⁰⁷ and exclusive rights granted to a right holder under TRIPS¹⁰⁸ on the other. According to Curci “the CBD is far more favourable to conservation of biodiversity and preservation of rights for developing countries while TRIPS is far more aggressive about facilitating biological patentability and promoting private ownership and exploitation of such resources. Nevertheless, the two aims are not necessarily mutually exclusive”¹⁰⁹.

There are three main views expressed by States as discussed in the WTO as to whether or not there is a conflict between TRIPS and the CBD: that there is an inherent conflict, that there is no conflict and no potential for conflict and lastly that there is no conflict but a conflict may arise in the implementation of the two treaties.

The states that argue there is a conflict (in relation to TT) base their conclusion upon the fact that TRIPS provides for “patenting and other IPRs of genetic material without ensuring that the provisions of the CBD, including those relating to ... benefit sharing (including TT) are respected”¹¹⁰.

The States which argue there is no conflict argue that “the granting of patent rights over inventions that use genetic material does not prevent compliance with provisions of the

¹⁰⁵ Article 15(7), CBD

¹⁰⁶ Article 16, CBD

¹⁰⁷ Article 27, TRIPS

¹⁰⁸ Article 28, TRIPS.

¹⁰⁹ Curci, 2005, at 4

¹¹⁰ Kenya, IP/CM/28, para 144 in WTO Secretariat, Summary, at 2

CBD regarding the sovereign right of countries over their genetic resources, ... and benefit sharing”¹¹¹.

The Third view expressed by states is that there is no inherent conflict but a conflict may arise when the two treaties are implemented. “...there is interaction and overlap between the subject-matter of the two agreements”¹¹² and “what is more important than considering whether there is a potential conflict is to consider how TRIPS could be implemented in a way supportive of the CBD”¹¹³.

Paulwelyn considers that certain pre-conditions must exist for a potential conflict to arise. Firstly, there must be an overlap of the subject matter of the two norms. Secondly, the conflict must arise from the perspective of one state in its relationship with another State. Article 15 and 16 of the CBD relate to IPRs in terms of technology to be transferred which might be subject to IPRs. TRIPS clearly is about IPRs. There is, therefore, overlap in the subject matter. If a state which is a contracting party to both the CBD and TRIPS implements the TT provisions of the CBD and consequently another State (which is also a party to the TRIPS) is forced to provide TT as a form of benefit sharing in exchange for access to genetic resources, a conflict may arise. In a slightly different scenario, a State may choose not to implement the provisions of the CBD stating that TRIPS does not allow them to do so.

Given that these pre-conditions are fulfilled there is a possibility that a conflict may arise, but is the conflict just potential or is it real? A conflict will arise where it is impossible to implement two norms without the implementation of one constituting or leading to, or possibly leading to a breach of the other.

The CBD provisions in relation to TT are found at article 16 and in article 15(7) in relation to benefit sharing. Article 16 provides that each contracting party undertakes

¹¹¹ EC, IP/C/W/254, IP/C/M/30 at para 143 in WTO Secretariat, Summary at 3

¹¹² Australia, IP/C/W/310, Czech Republic, IP/C/M/33, para 126, Norway, IP/C/M/32, para 125 in WTO Secretariat, Summary at 3

¹¹³ Brazil IP/C/M/29 at paras 146 and 148, India IP/C/M/30 at para 169 in WTO, Secretariat, at 3

“to provide and/or facilitate access for and transfer to other contracting parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources...”¹¹⁴.

The section goes on to provide that such transfer of technology to developing countries shall be provided on fair and favourable terms and in the case of technology subject to patents or other IPRs, the transfer shall be provided on terms which recognise and are consistent with adequate and effective protection of IPR¹¹⁵. Article 16(5) further provides that

“the contracting parties, recognising that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives”.

Article 15(7) provides that

“Each contracting party shall take legislative, administrative or policy measures, as appropriate, and in accordance with articles 16.... with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilisation of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms”.

TT can be considered to be a benefit as part of the benefit sharing provision.

The provisions of TRIPS which may conflict with the implementation of the above mentioned CBD provisions are articles 27 and 28. Article 27 relates to the patentability of products and/or processes and in basic terms states that all inventions shall be patentable provided they are new, involve an inventive step and are capable of industrial application. Article 28 provides a patent with exclusive rights including to prevent third parties not having the owner’s consent from making, using, offering for sale, selling, or importing the product or process (or the product resulting from a protected process)¹¹⁶.

¹¹⁴ Article 16(1), CBD

¹¹⁵ Article 16(2), CBD

¹¹⁶ Article 28(1)(a) and (b), TRIPS.

Patent owners also have the right to “assign, or transfer by succession, the patent and to conclude license contracts”¹¹⁷.

TT is integral to achieving the objectives of the CBD, both as a means to of conserving and sustainably using biodiversity and as a means of benefit sharing¹¹⁸. The potential conflict arises where a State intends to implement the TT provisions (or benefit sharing) of the CBD while respecting the exclusive rights of IPR holders under TRIPS. If a State is to achieve the objectives of the CBD, it requires TT, however it is difficult for the State (especially developing States) to obtain such technology while strictly affecting the rights of an IPR holder granted by TRIPS.

The exclusive rights may make it difficult for the State to obtain TT and consequently such rights run counter to the objectives of the CBD as outlined in article 16(5), creating a potential conflict with TRIPS. Further under article 15 of the CBD a contracting party must obtain a benefit (perhaps in the form of TT) in exchange for it granting access to its genetic resources. This could be enforced by refusing to patent a process or product if the applicant does not show evidence of benefit sharing for the use of the genetic resource. However, it is not a requirement of patentability under article 27 of TRIPS that a patent applicant show they have entered into benefit sharing with the providing country. If a State implements such a requirement, it could be in violation of TRIPS as it extends the requirements for patentability beyond that stated in TRIPS.

Kruger points out that there is potential for conflicting results in implementation;

“Without reconciliation, they (the CBD and TRIPS) can produce quite different results – one allowing a country to protect itself against bio-piracy of foreign states and one forcing a state to recognise intellectual property rights which may not be beneficial to the preservation of the biodiversity of that State”¹¹⁹.

¹¹⁷ Article 28(2), TRIPS

¹¹⁸ see Article 1, CBD

¹¹⁹ Kruger at paragraphs 188-189

The provisions of TRIPS and the CBD may be in conflict when it comes to attempting to implement both conventions. However, it may be possible to avoid a real conflict through interpretation or reconciliation. Maljean-Dubois is of the opinion that the conflict between TRIPS and CBD is an “apparent conflict” only¹²⁰. He considers that harmonisation “can be realised through adequate interpretation of all the obligations at stake and further legislative work, harmonising the two treaties for the benefit of the international community”¹²¹.

If interpretation or reconciliation does not lead to the possibility of implementing both norms without being in conflict then a real conflict exists. If such a situation arises then conflict resolving techniques such as that set out in article 30 of the Vienna Convention must be considered.

3.1.1 Conflict Clause within the CBD

Occasionally a treaty will contain a conflict clause which provides for ways to avoid conflicts with other norms. This provision is the first place to look in attempting to resolve a conflict. The CBD at section 22(1) refers to its relationship with other agreements stating

“The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity”.

There are two parts to the conflict clause, firstly the CBD will not effect another *existing* treaty (that is existing at the time the CBD entered into force) and secondly, another treaty will be affected by the CBD where the exercise of the rights and obligations under the other treaty would *cause a serious damage or threat to biological diversity*.

¹²⁰ Sandrine Maljean-Dubois, Biodiversite, Biotechnologies, Biosecurite: Le Droit International Desarticule, 127(4) *J. Du Droit Int’L* 966-967 (2000) in Curci, 2005, at 15

¹²¹ Curci, 2005, at 15

It is uncertain how this provision relates to TRIPS¹²². TRIPS entered into force in 1995. The CBD entered into force in 1993. Accordingly TRIPS was not an “existing” international agreement at the time the CBD entered into force. Therefore the conflict clause does not apply in attempting to resolve the conflict with TRIPS. It is of course also possible to say though that the TRIPS is now an existing international agreement in that it is now in existence.

The second part of the clause has caused some difficulty in application as “...there are no criteria as to when the exercise of rights and obligations poses a serious threat to biological diversity”¹²³. The “effectiveness of the provision depends upon the interpretation of ‘serious damage or threat to biological diversity’”¹²⁴. TRIPS could pose a threat to biological diversity through allowing the patenting of plant varieties which could lead to mono-cultures. A particular example is the terminator seed which requires a chemical trigger in order to allow the resulting plant to reproduce. In this way overriding the provisions of the CBD in favour of TRIPS could cause “serious damage or threat to biological diversity”.

TRIPS contains no provisions relating to the situation of conflict with environmental agreements. Without any guidance within the texts on how to resolve a possible conflict, then interpretation or reconciliation may be considered to avoid the conflict.

¹²² COP 3 paper at para 40

¹²³ Wolfrum & Matz at 125

¹²⁴ Kothari & Anuradha, 1997 at 13

3.1.2 Interpretation

The interpretation of treaties is governed by articles 31 to 33 of the Vienna Convention¹²⁵. Article 31 provides the general rule(s) of interpretation. A treaty must be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context¹²⁶. The context of a treaty includes its text, the preamble and annexes and any other agreements made between the parties relating to the treaty¹²⁷. Further, when interpreting a treaty account can be taken of any subsequent agreements between the parties, any subsequent practice in the application of the treaty and any relevant rules of international law applicable between the parties¹²⁸. If a treaty provision's ordinary meaning is clear then applying other rules of interpretation will not be necessary. Pauwelyn has pointed out that a provision must be "broad and ambiguous enough to allow for input by other rules"¹²⁹. Further, in the example of WTO rules "the other rule must say something about what the WTO term should mean, that is there must be a hook- up with the WTO term for the other rule to impart meaning in the process of interpretation"¹³⁰.

¹²⁵ The Vienna Convention is considered to be a customary rule of treaty interpretation and accordingly is applicable to the interpretation of the CBD regardless of whether the members of the CBD have ratified the Vienna Convention. Under article 3.2 of the WTO Understanding on Rules of Procedures Governing the Settlement of Disputes customary rules of interpretation shall be used to clarify the provisions of the agreements. The WTO also considers the Vienna Convention to be customary rules of treaty interpretation and applicable in WTO dispute resolution, see *US – Standards for Reformulated and Conventional Gasoline*, Report of the Appellate Body (29 Apr 1996) (WT/DS2/AB/R)

¹²⁶ Article 31(1), Vienna Convention

¹²⁷ Article 31(2), Vienna Convention

¹²⁸ Article 31(3), Vienna Convention

¹²⁹ Pauwelyn at 245

¹³⁰ Pauwelyn at 245

3.1.2.1 Ordinary Meaning and Context - Article 31(1) and (2) Vienna Convention

Article 31(1) of the Vienna Convention has been interpreted by the WTO panel and Appellate Body “...to require an investigation into both the natural language construction of the wording and then the purpose which the rules were designed to fulfil”¹³¹. Pauwelyn following the opinion of the International Law Commission opines that effectiveness (that is fulfilling the purpose of the treaty) could in fact be incorporated into article 31(1) as article 31(1) requires that a treaty be interpreted in good faith¹³². Therefore “when a treaty is open to two interpretations one of which does and the other does not enable the treaty to have appropriate effects, good faith and the objects and purposes of the treaty demand that the former interpretation should be adopted”¹³³.

The two articles in contention in TRIPS are article 27 on the issue of patentability and article 28 relating to the exclusive rights of the patent owner. These two articles must be interpreted in accordance with their ordinary meaning in context in a manner which gives effect to the purpose of TRIPS.

The objective of TRIPS is to provide “..protection and enforcement of intellectual property rights which should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations”¹³⁴. Further TRIPS must be read in light of the Marrakesh Agreement establishing the WTO. The preamble to the Marrakesh provides that the parties to the agreement recognise

¹³¹ Smith and Woods at 40 citing examples of Mexico- Measures affecting Telecommunications Services, WT/DS204/R (Apr. 2, 2004) and US- Reformulated Gasoline, WT/DS2/AB/R (Apr. 29,1996).

¹³² Pauwelyn at 248

¹³³ ICJ Reports 1950, 229 in Pauwelyn at 248

¹³⁴ Article 7, TRIPS

“that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, *while allowing for the optimal use of the world’s resources in accordance with the objective of sustainable development, both seeking to protect and preserve the environment* and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development” (emphasis added).

Article 27(1) provides that patent protection must be provided to all inventions that are new, involve an inventive step and are capable of industrial application. This provision has been interpreted to mean that the invention must not have existed or been used before (that is, it is new); it is the result of innovation and not simply a discovery (for example a genetic resource in its natural state is simply a discovery and would therefore not qualify for patenting); and lastly it must have some use for the industry the invention was designed for¹³⁵.

Under article 27(2) members may exclude certain inventions from patentability which is necessary to protect ordre public and morality including to protect human, animal or plant life or health or to avoid serious prejudice to the environment. Further exclusions are listed under article 27(3) including that members may exclude from patentability plants and animals other than micro-organisms. However, members must provide protection for plant varieties either by patent or a sui generic system.

In its ordinary meaning Article 27 does not require a patent applicant to show that they have engaged in benefit sharing with the source country (in the case where genetic resources are the basis of the invention). This in some ways runs contradictory to the procedures of the CBD which does require each contracting party to take measures to ensure the sharing of the benefits resulting from the use of genetic resources of the host country. Further the aims of the CBD are weakened by the non-requirement of TRIPS to

¹³⁵ De Cluitt at 2

show benefit sharing. Perhaps there is some argument in stating that in order to carry out the objectives of TRIPS and the Marrakesh agreement, i.e. to contribute to TT (which is a benefit under article 15, CBD) while optimally using the world's resources with the objective of sustainable development, such a disclosure is required. This would require the interpretation of new, inventive step or industrial application to mean that benefit sharing has been entered into. Given the quite clear wording of those terms and the interpretation given to them already, it would be quite a stretch to make such an argument. Perhaps a better argument to be made under article 27(2).

A member may have the option under article 27(2) to deny a patent if it can be shown that such a step is necessary to avoid serious prejudice to the environment. Prejudice in its ordinary meaning means a negative impact upon something. In light of the objectives of the Marrakesh agreement an invention may have a negative impact on the environment if it contributes to decreasing biodiversity. There is argument that the patenting of biotechnology could have a negative impact on biodiversity especially where it allows for bio-piracy¹³⁶ and/or the invention is damaging to the environment such as in the case of the terminator seed. Although this assists in carrying out the objectives of the CBD in sustainably using and/or conserving biodiversity, it does not assist in ensuring that the benefits arising from the use of genetic resources are shared in an equitable manner.

There still remains, therefore, the potential for conflict in relation to implementing article 15 of the CBD requiring benefit sharing. A State is arguably free to implement a further requirement to patentability that an applicant must show that they have entered into benefit sharing where an invention is the result of biotechnology¹³⁷. There is argument that such a provision would violate article 27(1) which requires that patentability be provided without discrimination as to the field of technology. However, this may be justified under the exception in article 8 to protect public interest (discussed below).

¹³⁶ Where the taking of genetic resources is not monitored and protected this could lead to the destruction of that resource.

¹³⁷ This is possible as TRIPS only provides the minimum requirements for patentability.

Article 28 provides the patent holder with certain exclusive rights. Again, the wording of the provision is quite clear. However, looking to the context of these rights, they are not without exceptions. Articles 8, 30 and 31 all provide for exceptions to the rights conferred on the right holder. Khor suggests that using the flexibilities provided by these articles could provide a way to potentially overcome the conflict¹³⁸.

It is unclear, however, how these exceptions may be implemented. For example Article 30 is quite ambiguous providing that “members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties”. What are the limited exceptions a member may provide? Article 30 can be interpreted taking into account its context with article 8 providing some assistance. Article 8 states that “members may ...adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this agreement”. Therefore the limited exceptions allowable under article 30 may include measures to protect the public interest. It is unclear as to what constitutes “public interest”.

Article 31 states that members may provide laws which allow for the use of the patent without the patent holders permission provided that pre-requisites are carried out¹³⁹. According to Khor on the basis of this provision it is “legitimate to formulate in domestic law a system that grants compulsory licences for reasons such as: (a) those set out in article 8...; (b) where a licence is unreasonably refused to a local firm; (c) where other anti-competitive practices by the patent holders are identified”¹⁴⁰. Accordingly, where an IPR holder is demanding high prices and/or onerous conditions for the transfer

¹³⁸ Khor at 64

¹³⁹ At Article 31(a) to (l).

¹⁴⁰ Nijar, G.S, 1996. “TRIPS and Biodiversity: the threat and responses”, Penang, Third World Network in Khor at 65-66.

of their technology which is important to the sustainable use or conservation of biodiversity, a State may be able to issue a compulsory licence to obtain the technology. Such use may be justified under article 8 and possibly under article 7 in achieving the objective of TT. It is clear from the TRIPS provisions overall that taking advantage of this provision may only be done so in limited circumstances and under certain conditions which are “aimed at protecting the legitimate interests of the patent holder”¹⁴¹. The use of a compulsory licence granted under this article may be done so in the circumstances described in article 8. Again the question arises as to what is meant by “public interest”?

Where the ordinary meaning and the context do not provide any guidance then assistance may be sort from other relevant rules of international law applicable between the parties¹⁴².

3.1.2.2 Other matters to consider in Addition to the Context – Article 31(3)(c) Vienna Convention

In interpreting a norm of a treaty, it is possible to look to other matters in addition to the ordinary meaning and context. Article 31(3)(c) provides that any relevant rules of international law applicable in the relations between the parties may be used in interpreting the norm. According to Sands “article 31(3)(c) reflects a “principle of integration. It emphasises both the “unity of international law” and the sense in which rules should not be considered in isolation of general international law”¹⁴³. The extent that other rules of public international law including other treaty law, general principles and customary law apply to the WTO treaties which are often referred to as “self-contained” is questionable. However, the Appellate body itself has recognised that the

¹⁴¹ WTO Press Release, “Decision Removes final obstacle to cheap drug imports” 30 August 2003 available at http://www.wto.org/English/news_e/pres03_e/pr350_e.htm (30/06/06)

¹⁴² Article 31(3)(c), Vienna Convention

¹⁴³ Sands at 95

WTO system is not a completely closed system and the WTO agreements should not be read “in clinical isolation from public international law”¹⁴⁴.

Questions arise in relation to firstly what type of international rules can be considered, secondly what is meant by “rules applicable in the relations between the parties”, that is, which parties do the rules have to be applicable to and lastly “what is meant by relevant rules”¹⁴⁵? The reference to “international rules” has been considered to refer to all sources of international law including customary law, general principles and other treaty laws¹⁴⁶. It is uncertain as to which parties the provision is referring to. In a recent WTO panel decision the expression “party” requires that “all the parties to the treaty to be interpreted needed to have become parties to that other treaty”¹⁴⁷. Therefore, it is necessary that all the parties to TRIPS are also parties to the CBD. In relation to the meaning of “relevant” rules, it has been said that if the “other rule sheds light on the meaning of the WTO term, it is relevant. If it has no bearing on it, then it is not relevant”¹⁴⁸.

The WTO Appellate Body has looked to other sources of international law when interpreting provisions of its agreements. In the case of *United States – Import Prohibition of Certain Shrimp and Shrimp Products*¹⁴⁹, the Appellate Body was called upon to interpret the meaning of ‘exhaustible natural resources’. The Appellate Body noted: “the words of Article XX(g)... must be read by a treaty interpreter in the light of contemporary concerns of the community of nations about the protection and

¹⁴⁴ Koskenniemi at 73. Further the DSU at article 3(2) provides that customary rules of interpretation of public international law apply to the WTO dispute settlement bodies. Sands is also of the view that other rules of international law should apply to the WTO “unless it can be shown that such an application would undermine the object and purpose of the WTO” (Sands at 104)

¹⁴⁵ Pauwelyn at 254

¹⁴⁶ Koskenniemi at 180. This has been supported by various judicial bodies, for example, the WTO in the *US -Shrimp Case*, Appellate Body Report, para 130 and the European Court of Human Rights in *Loizidou v Turkey*, judgement of 18 December 1996, Reports 1996-VI, para 44 in Pauwelyn at 256

¹⁴⁷ *EC- Measures Affecting the Approval and Marketing of Biotech Products* (7 February 2006) WT/DS291-293/INTERIM, p. 299 para 7.68 in Koskenniemi at 190

¹⁴⁸ Pauwelyn at 263-264

¹⁴⁹ 1998

conservation of the environment”¹⁵⁰. The Appellate Body also made reference to the preamble of the WTO Agreement which indicates “the parties’ awareness of the ‘importance and legitimacy of environmental protection’ and ‘explicitly acknowledges “the objective of sustainable development”¹⁵¹. On the basis of this reasoning the WTO referred to the CBD among other treaty instruments to interpret “exhaustible natural resources”¹⁵². However, as Pauwelyn points out the Appellate Body did not make reference to article 31(3)(c) of the Vienna Convention when interpreting the term “exhaustible resources” and accordingly it “remains unclear whether these references to non-WTO treaties were made pursuant to Art. 31(3)(c) or for example, pursuant to art 31(1) of the Vienna Convention, calling for an interpretation of treaties ‘in good faith in accordance with the ordinary meaning to be given to the terms of the treaty’”. The Appellate Body in its reasoning specifically stated that “We hold that, in line with the principle of effectiveness in treaty interpretation, measures to conserve exhaustible natural resources... may fall within Article XX(g)”¹⁵³. Even so, this is a positive indication that the WTO is willing to take into consideration other treaty provisions in order to interpret a WTO treaty.

It is possible to take account of the CBD provisions when interpreting TRIPS. It is questionable as to whether it is necessary that every member to TRIPS has also ratified the CBD for it to be taken into account. On the basis of the *EC-Biochemical Products* case it seems that it is necessary. However, “it aims to mitigate this (limiting affect)...by accepting that other treaties may nevertheless be taken into account as facts elucidating the ordinary meaning of certain terms in the relevant WTO Treaty”¹⁵⁴. There is some support for the fact that the parties may not need to be parties to the agreement if the agreement is considered to reflect the “trends followed by international law”¹⁵⁵.

¹⁵⁰ Shrimp Turtle Case at para 129 in French at 297

¹⁵¹ Shrimp-Turtle case at para 130 in French at 297

¹⁵² Pauwelyn at 256

¹⁵³ Shrimp-Turtle at at para 131 in French at 298

¹⁵⁴ Koskenniemi at 191

¹⁵⁵ Opinion of Judge Treves in *Southern Bluefin Tuna Cases (New Zealand v Japan, Australia v Japan)*, *Provisional Measures* (1999) in French at 311

The question arises if an exception to the rights of an IP holder to facilitate the transfer of technology for the purposes of the conservation of biodiversity and the sustainable use of biodiversity under the CBD could be considered as a measure to protect public health/ nutrition or to promote the “public interest” as allowable under the exceptions in article 8 TRIPS? Kothari & Anuradha have noted that “although environmental protection is not explicitly incorporated into this provision, it could be construed as an important aspect of the ‘public interest’”¹⁵⁶.

It is noted in the preamble to the CBD that biodiversity is a common concern of human kind and is important to maintaining life sustaining systems of the biosphere. Further it is recognised that “the conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential”. The preamble to the WTO Agreement expressly provides that sustainable development is an aim of the WTO. Sustainable development and particularly the conservation of biodiversity has been considered a vital mechanism for preventing food shortages, something which could be considered important for protecting public health and nutrition. Further article 7 of TRIPS expressly states that its objectives are to protect IPR in order to promote the transfer of technology.

Taking these matters into account when interpreting article 8, measures to protect public health and nutrition and the public interest could include legislating for the transfer of technology in return for access to genetic resources. There is argument that providing for benefit sharing in exchange for access to a State’s genetic resources is vital for its economic growth; if a party exploits those genetic resources and patents the results, then it takes the opportunity away from the host country to exploit them for itself. Therefore, it is in the public interest that benefit sharing be included as a pre-requisite for patentability.

Further, the sustainable use and protection of biodiversity is seen as a mechanism to ensure sustainable development and as a means of preventing food shortages. Preventing

¹⁵⁶ Kothari & Anuradha at 7-8

food shortages is a way of protecting public health and nutrition. In order to protect the public health a State may implement exceptions to the rights of IPR holders to compel the transfer of technology. Taking the example of the water extracting machine patented to the American Company, an African country may issue a compulsory licence for the use of the machine in order to prevent its people from starving due to drought.

Article 30 also provides for exceptions to the right holders' rights. Its terms are quite ambiguous and can be interpreted in light of article 8 of the TRIPS. To date the WTO dispute settlement bodies have interpreted article 30 quite narrowly. An example of this is the *Canada-Pharmaceutical Patents* case¹⁵⁷ where the EC challenged Canadian laws that created exceptions to the exclusive rights of patent holders. The panel stated that article 30 consists of three parts which all must be fulfilled to allow the exceptions: (1) the exception must be "limited"; (2) it cannot unreasonably conflict with the normal exploitation of the patent; and (3) it cannot 'unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties'¹⁵⁸. The panel concluded that "to determine whether a particular exception constitutes a limited exception, the extent to which the patent owner's rights have been curtailed must be measured"¹⁵⁹. It concluded that "a normal exploitation" of the patent referred to commercial activity and further for a measure to conflict with the normal exploitation it must "exclude all forms of competition that could detract significantly from the economic returns anticipated from a patent's grant of market exclusivity"¹⁶⁰. Thirdly the panel found that the "legitimate interests" (of a patent holder) referred to "widely recognized normative standard(s)"¹⁶¹. The panel did not consider the meaning of 'taking account of the legitimate interests of third parties'. Although the panel in its opening statements mentioned that article 30 was to be interpreted in light of the object and purpose, that is articles 7 and 8 of TRIPS, it did not refer to these provisions in its substantial reasoning¹⁶².

¹⁵⁷ *Canada – Patent Protection of Pharmaceutical Products* (19 December 1997) DS114

¹⁵⁸ *Canada – Pharmaceutical* case at para 7.20

¹⁵⁹ *Ibid* at para 7.32

¹⁶⁰ *Ibid* at para 7.55 and 7.54

¹⁶¹ *Ibid* at para 7.80

¹⁶² Bersconi-Osterwalder et al. at 313

It may be possible to argue that this case should be disregarded for its failure to take into account articles 7 and 8 of TRIPS. Since this decision, the Doha Declaration of 2001 which relates to the use of patented pharmaceuticals in times of health crises, states that the objectives and principles of TRIPS should be considered in the interpretation of the TRIPS¹⁶³. Accordingly, a decision made today in relation to interpreting article 30 may differ slightly when taking account of articles 7 and 8.

Given the importance of conserving biodiversity and the role that that plays in sustainable development and further that biodiversity protection and the sustainable use of same may be considered as public interests; it is conceivable that a State may utilise create exceptions to exclusive rights under article 30 for an invention which is necessary for conserving or sustainably using biodiversity. Such an exception must be limited for example the exception is only utilised for a small period of time and must not conflict with the normal exploitation of the invention. This may be justified if the invention is to be used only in that particular State for the purposes of protecting its people. The patent holder may then exploit the invention in other countries and thereby may normally exploit the invention.

Due to the narrow interpretation of article 30, there may be some difficulties in implementing it. Accordingly it may be possible to take advantage of the exception in article 31 instead. A State may be able to authorise the use of patented technology without the consent of the right holder in the circumstances that such patented technology is in the public interest (as we have concluded public interest to include conserving and sustainably using biodiversity under article 8). Provided that the grounds in article 31 are complied with it may be possible to take advantage of this section to fulfil the obligations under the CBD.

It may also be possible to interpret the exceptions within TRIPS in light of other customary laws and general principles of international law. These may include human

¹⁶³WTO, "The Separate Doha Declaration Explained"

http://www.wto.org/english/tratop_e/trips_e/healthdeclexpln_e.htm (02/07/06)

rights norms such as the right to food. It is recognised that the conservation and further the sustainable use of biodiversity can assist in alleviating the food shortage problem occurring in the world today. Certain technologies assist particularly with the sustainable use of biodiversity which may lead to the increase in crop variety and crop resistance to pests which leads to greater production of food. Perhaps the interpretation of protecting public health and nutrition and public interest could include the right to food. Therefore if a State were to use the exceptions within TRIPS to compulsory licence (for example) a technology for the purpose of sustainable use of biodiversity, it could be argued that this is in line with protecting public health and nutrition and accordingly allowed under TRIPS. As the IPR Commission has stated "... there are no circumstances in which the most fundamental human rights (such as the right to food) should be subordinated to the requirements of IP protection"¹⁶⁴.

3.1.3 Conclusion on Interpretation

Although a potential conflict exists between the provisions of the CBD and TRIPS, it is possible to avoid a "real" conflict through interpreting the provisions. Of particular importance is the interpretation of the exceptions available in TRIPS. If these provisions are interpreted in light of the CBD and other customary laws or general principles of international law including for example human rights norms, it may be possible to implement both treaties in a mutually supportive manner without encountering a real conflict.

Until a decision is made by a court or the WTO dispute settlement body it is difficult to say with any certainty that the provisions will be interpreted in the manner suggested.

In addition to interpreting the provisions, the process of reconciliation may be another method of avoiding a real conflict.

¹⁶⁴ IPR Commission at 3

3.1.4 Reconciliation

Reconciliation as proposed by Sadat-Akhavi is a process of “trying to prove the compatibility of two norms”¹⁶⁵. He proposes a test for this as follows: “Two norms are reconcilable when there is at least one way of complying with all their requirements”¹⁶⁶. Sadat-Akhavi outlines three situations involving reconcilable norms which commonly occur¹⁶⁷. One of those situations is the situation where “one norm relate(s) to the ‘manner’ in which the other norm must be performed.... The norms remain compatible so long as one norm leaves available at least one manner in which the other norm can be respected”¹⁶⁸.

In this sense of reconciliation we are referring to designing the provision when implementing it into domestic law in such a manner that it does not conflict with the other Treaty. We are not referring to the more traditional sense of reconciliation by means of for example applying *lex posterior* and *lex specialis*. The provisions must be flexible enough to allow for at least one way to implement both provisions without violating the other.

The CBD provisions require States to provide and/or facilitate access for and transfer to other contracting parties of technology in order to conserve biodiversity. TRIPS requires that States provide right holders with exclusive rights meaning that the right holder has the right to decide if they will sell or licence (for example) their technology. There are limited exceptions in TRIPS which allow for these exclusive rights to be limited. Therefore one norm is stating in a sense that right holders should be encouraged or compelled to transfer technology while the other is providing that a right holder with the exclusive right to decide what they want to do with their invention.

Given that no conflict will arise if there is at least one way of complying with both norms, it may be possible to reconcile the two provisions by the State legislating for

¹⁶⁵ Sadat-Akhavi at 34

¹⁶⁶ Ibid

¹⁶⁷ Ibid at 35

¹⁶⁸ Sadat-Akhavi at 41

agreements with the right holder which provide the State with technology in return for access to their genetic resources. In this way the right holder is giving up their rights of their own free will and therefore the exclusive rights given under TRIPS are respected. At the same time the State is gaining TT which fulfils the norms of the CBD. Private agreements are discussed further in section 4.

It is therefore possible to reconcile the two agreements as there is one way of implementing the provisions in a way that neither treaty is breached. Accordingly, there is no “real” conflict.

3.2 Conclusion on Part 2 – Is there a conflict?

It is clear that a potential conflict exists between the CBD provisions on TT and the provisions of TRIPS relating to the exclusive rights granted to the right holder. However, a real conflict can be avoided through the methods of interpretation and/or reconciliation. Article 31(3)(c) which allows for interpretation of a norm by applying any relevant rules of international law applicable in the relations between the parties is of great assistance. Applying that interpretation rule it is possible to interpret the exceptions in TRIPS taking into account the provisions of the CBD. Further other customary rules including human rights norms can be considered when interpreting the exceptions in TRIPS. Interpreting the provisions of TRIPS in a manner consistent with the CBD allows for both treaties to be implemented in a manner which does not lead to a real conflict.

Another alternative to avoid a “real” conflict is to turn to the method of reconciliation as proposed by Sadat-Akhavi. It is possible to reconcile the two norms of the CBD and TRIPS particularly through the use of private agreements which allows for compliance with both norms.

4 Ways Forward

One of the most important aspects of the CBD is that States have sovereign rights over their genetic resources and further that they have the authority to determine access. This gives the State a bargaining tool to use in order to obtain TT and provides a manner in which States can implement the TT provisions of the CBD without violating TRIPS. There are two ways in which this can be done. Firstly States can enact national legislation taking full advantage of the exceptions within TRIPS by for example, allowing compulsory licences for technology which conserves or sustainably uses biodiversity and further legislating to provide that access to genetic resources will only be granted in return for TT. Secondly, States have the ability to negotiate private agreements under which technology is transferred in return for access to genetic resources.

It has been pointed out that while these methods are useful, there is some difficulty in regulating access and therefore right holders may get around the legislation or avoid entering into an agreement. There is the option of taking legal action once the violation has been discovered and attempt to prevent the issue of a patent over the technology. However, it may be that a country does not have the resources to pursue the legal case or it does not have the resources to monitor patent offices over the globe for those violations¹⁶⁹. The other problem is that TRIPS does not compel an applicant to prove they have entered into benefit sharing agreements and therefore the State may not have any grounds to prevent the patent under the provisions of TRIPS.

It is acknowledged that there are still potential problems within TRIPS in relation to the CBD; however, this may be overcome to some extent by national legislation. The best

¹⁶⁹ See Khor at 60-61

way forward is for States to implement such legislation or to enter into private agreements with technology rights holders.

4.1 Legislating to Compel Technology Transfer

It is possible for States to enact legislation which implements the TT provisions of the CBD without conflicting with TRIPS. Such legislation could take full advantage of the exceptions within TRIPS to enable TT and/or benefit sharing mechanisms (including the transfer of technology as a benefit) to be incorporated into national legislation.

“A country could pass legislation stating that its resources were accessible to all, provided that those wishing to avail themselves of these resources were willing to sign a legally binding agreement to not apply restrictive IPRs to these resources, or allow such application by third parties. In addition, appropriate benefit-sharing arrangements could also be worked out in Material or Information Transfer Agreements”¹⁷⁰.

When implementing the provisions of both TRIPS and the CBD States should bear in mind the respective objectives of both conventions.

“Depending on the actual legislation passed by member nations and the extent of the rights relinquished, an erosion of intellectual property rights could actually create a disincentive for biotechnology companies to invest in research on, and development of, a given country’s genetic resources. Should this occur implementation of the Convention’s provisions could work against its goals. This will not necessarily be true, however, if the legislation is such that it does not undermine the profit potential available to a firm”¹⁷¹.

According to Power it is preferable to enact legislation that allows for flexibility in negotiating a contract which

“...is preferable to having developed nations pass legislation requiring companies to automatically relinquish certain rights. It is preferable because control is in the hands of the nations possessing the biogenetic resources. Given market conditions, they can

¹⁷⁰ Kotharni & Anurdah at 10

¹⁷¹ Power at 119

negotiate in order to cover the costs of foregoing the development of their tropical rainforests. Furthermore, compulsory licensing and the full or partial relinquishment of patent or other intellectual property rights is not required, but is merely a component of the negotiations equation”¹⁷².

Power also considers that the key to the effectiveness of such legislation lies in a united front, that is, by many States passing similar legislation. This will prevent a potential investor seeking out States which do not have such requirements which would undermine the objectives of the CBD. “...if increasing numbers of resource provider countries pass similar legislation requiring compensation for native species, it will become the norm for companies to compensate a provider country for the utilisation of its natural species instead of the exception”¹⁷³.

A few States have already drafted legislation in relation to the CBD. Two examples are the regional agreement between Bolivia, Columbia, Ecuador, Peru and Venezuela, The Andean Pact, and the *Biodiversity Law* of Costa Rica.

The Andean Pact has adopted the “common system on Access to Genetic Resources”¹⁷⁴.

“The access system sought to enable Member countries to obtain benefits from biotechnological products derived from their resources by facilitating technological training, research, development and transfers through access contracts”¹⁷⁵.

This access system is still in its infancy and its success or failure is yet to be seen.

The biodiversity legislation of Costa Rica¹⁷⁶ has taken advantage of some of the exceptions available in TRIPS in order to have access to technologies which the monopolisation of may cause harm to fishing and farming which is important to the public interest in regards to food, health and nutrition. Article 78 of that legislation

¹⁷² Power at 122

¹⁷³ Ibid at 123

¹⁷⁴ Venrux at 11

¹⁷⁵ Tafur-Dominguez, Victor. “International Environmental Harmonisation – Emergence and Development of the Andean Community”, 12 PACE INT’L L. REV. 283, 306-307 (2000) in Venrux at 12

¹⁷⁶ *Biodiversity Law*, 1998, Costa Rica

provides that IPRS will not be applied to “inventions which, to be commercially exploited through a monopoly, can affect farming or fishing processes or products which are considered basic for the food and health of the inhabitants of the country”. This provision is allowable under the exception provided in article 27(2) of TRIPS¹⁷⁷ and also article 8 for protecting the public interest.

The Bonn Guidelines may also provide some assistance to States in legislating to enable benefit sharing provisions of the CBD. The aim of the Bonn Guidelines is to

“serve as inputs when developing and drafting legislative, administrative or policy measures on access and benefit sharing.... And contracts and other arrangements under mutually agreed terms for access and benefit-sharing”¹⁷⁸.

It is possible for countries to implement the TRIPS and the CBD in a mutually supportive manner through legislation.

4.2 Private Agreements to Facilitate Technology Transfer

Both TRIPS and the CBD allow for private contracts between parties for the transfer of technologies¹⁷⁹. According to Venrux: “... agreements between multinational corporations and host countries have shown promise for facilitating the TT goals of the

¹⁷⁷ Article 27(2), TRIPS allows members to exclude from patentability inventions which preventing the commercial exploitation of is necessary to protect ordre public or morality including to protect human, animal or plant life or health. In this example perhaps it is protecting human health and life.

¹⁷⁸ Article 1, Bonn Guidelines

¹⁷⁹ The parties to the contract may be a private enterprise and a State acting in its public capacity or a State acting in a private capacity. How the State enters into the contract will have an impact on how it is enforced and carried out. It is questionable whether a State acting in its public capacity may be able to contract out of the CBD and further whether a State acting in a private capacity may contract out of the CBD. However, the implications of this issue are more detailed than this paper will allow. Here we are referring to a State acting in its public capacity.

CBD and TRIPS”¹⁸⁰. Such agreements have been referred to as “material transfer agreements (MTAs)”¹⁸¹.

The drafting of the terms of the agreement is crucial to ensure a mutually advantageous agreement. Every MTA should provide detailed terms for the conditions upon which access and use of genetic resources is granted and should provide for the transfer of technology and benefit sharing provisions¹⁸². It has been suggested that all MTAs:

“...should address several key elements in an effort to further the goals of the CBD. These include ownership and control of genetic resources, compensation, TT and the use of resultant knowledge...additionally...(MTAs) should have binding provisions regarding licensing and royalties”¹⁸³.

An example of a MTA is the well-known agreement between Merck Pharmaceuticals and Costa Rica’s Instituto Nacional de Biodiversidad (InBio). Although the agreement was entered into before the CBD entered into force, it is perhaps a good model of an MTA. The agreement required InBio to provide samples of various genetic materials to Merck over a two year period. Merck paid an initial sum of money which was simply for the access to the resources and was to be used in “taxonomic activities, genetic resources conservation, scientific training, and acquiring equipment for specimen collection”¹⁸⁴. The agreement also provided for royalty payments to be made to InBio if Merck was able to successfully commercialise a product derived from the samples provided by InBio. Further Merck agreed to employ local scientists for its bio-prospecting and to contribute to InBio laboratory equipment and materials needed to operate the processing laboratory¹⁸⁵.

¹⁸⁰ Venrux at 10

¹⁸¹ Lesser, W. “Sustainable Use of Genetic Resources Under the Convention on Biological Diversity” (1998) in Venrux at 11

¹⁸² Secretariat, WTO, Summary at 6

¹⁸³ Rettig at 277. Further WIPO has produced a document entitled “Operational Principles for Intellectual Property Clauses of Contractual Agreements Concerning Access to Genetic Resources and Benefit-Sharing” available at http://www.wipo.int/documents/en/meetings/2001/igc/doc/grtkfic2_3.doc which may provide some assistance for the types of clauses necessary for an effective MTA.

¹⁸⁴ Venrux at 11

¹⁸⁵ Ibid

The agreement has been “hailed as a success in promoting rural economic development, technology transfer and the preservation of biodiversity”¹⁸⁶. It has been said that it fully implements the CBD objectives in a way that does not violate TRIPS.

“This agreement ... met several objectives of both the CBD and TRIPS. First, by providing up-front remuneration to InBio and the Costa Rican government, the host country shares a stake in innovations developed out of their biological resources. Second, by including a provision whereby Merck would provide royalty payments for any future commercialised product, the host country shares in the benefits of any profits derived through biotechnological development. Third, the agreement facilitated technology transfer by employing local scientists in bio-prospecting”¹⁸⁷.

It has been noted, however, that this agreement may not be “replicated easily”¹⁸⁸. This is due to the fact that Costa Rica’s infrastructure is perhaps more advanced than most developing countries¹⁸⁹ and further many developing States do not have institutions like that of InBio that oversees the country’s natural resources¹⁹⁰. However, it is possible to work with the agreement for it to suit the particular State as evidenced by the fact that further agreements in other countries have now been entered into.

A further example is that between Shaman Pharmaceuticals and tribes in Peru.

“Shaman developed a program to compensate communities that assist in identifying and retrieving genetic materials that could be used in developing new pharmaceuticals. This program paid indigenous communities royalties on any successful commercial products derived from their resources.... Shaman also provided short and medium term benefits to address the immediate needs of the indigenous community. These benefits included training local scientists in using new technologies, providing scientific software, and supplying certain biotechnological equipment”¹⁹¹.

¹⁸⁶ Keating at 542

¹⁸⁷ Venrux at 11

¹⁸⁸ McClelland at 2

¹⁸⁹ Ibid

¹⁹⁰ Venrux at 11

¹⁹¹ Leser, w at 33-34 in Venrux at 11

Unfortunately this agreement did not prove to be profitable for Shaman. Similarly, at the conclusion of the Merck agreement “no drugs or other marketable products were developed from Costa Rican resources”¹⁹² and further Merck did not turn a profit. The failure of Shaman and Merck to make a profit has called into “question the efficacy of these programs as a viable business model”¹⁹³.

These failures highlight the fact that only very few genetic resources actually result in a profitable invention. This is not a reason to give up on MTAs but merely calls for the risk of non-profitability to be taken into account at the phase of negotiation. Power is of the opinion that a host country may be willing to take some of the risk of the bio-prospecting expedition in order to achieve an agreement. She states:

“...biotech firms may even benefit slightly in the short term from the need to negotiate contracts with a country providing genetic resources. Because potentially the entire relationship between the genetic resource provider and the firm requiring genetic materials would be negotiable, the biotech enterprise might be able to negotiate the requirement that the host nation assume a portion of the risks inherent in the research and development of any new biotech product or process derived from the acquired genetic materials.”¹⁹⁴.

Although there are still some issues that need to be resolved in negotiating such agreements, such as apportioning the risk for companies, there is the prospect that such agreements will path the way to achieving the objectives of the CBD.

¹⁹² Keating at 542

¹⁹³ Vnerux at 11

¹⁹⁴ Power at 119

5 Conclusion

It is important that both TRIPS and the CBD are implemented in a supportive manner. Technology plays an important role in the conservation and sustainable use of biodiversity. TRIPS has the aim of encouraging innovation by providing a mechanism to the inventor whereby they may profit from their innovation and furthermore recoup the costs of research and development. The CBD recognises technology as a key mechanism for carrying out its objects.

The CBD provisions relating to TT and the provisions under TRIPS which provide for the patentability of inventions and exclusive rights of the rights holder could potentially conflict rendering the objectives of the CBD difficult to achieve. However, the two agreements are not completely irreconcilable and a “real” conflict can be avoided through the interpretation of the provisions. By taking advantage of the exceptions laid down in TRIPS it is possible to implement the CBD provisions without violating TRIPS. It is now necessary for States to implement legislation to this effect. Further, another way for States to achieve the objectives of the CBD and obtain TT is through negotiated agreements. Such agreements are negotiated on the basis that the host country has the authority to provide access to genetic resources which the bio-prospecting firm wants and the bio-prospecting firm has the technology which the host country requires. Through this mutual need/want, a basis for negotiating a mutually advantageous agreement is set.

The importance of IPRs in the continuing benefits of technology and in encouraging TT should be recognised when implementing the provisions of the CBD. That is that the protection of IPRs further encourages the transfer of technology and also fosters innovation (of new ESTs or biotechnological inventions that sustainably use genetic resources or conserve biodiversity). In addition in regards to patentability issues it should be recognised that without requiring patent applicants to enter into benefit sharing arrangements before a patent will be granted, it is less likely that firms will

actually seek and exploit benefit sharing with the host country¹⁹⁵. This will serve to undermine the objectives of the CBD.

Some States have already implemented legislation and entered into agreements in a manner that is mutually supportive for both the CBD and TRIPS. It is a matter of time before the success or otherwise of these will be seen. However, it is possible for States to implement the CBD without violating TRIPS and this should be done in order that the objectives of the CBD are carried out.

¹⁹⁵ Curci, 2005, at 16

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