# Emerging Issues Relating to Conflicts between TRIPS and Biodiversity: Development Implications for South Asia

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### 1. INTRODUCTION

Intellectual property refers to the creation of the mind in the form of ideas. Intellectual Property Rights (IPRs) bestow the creator of such ideas, ownership rights and legal protection over the use of the creation for a limited period of time. The central element in this system is that the creator of intellectual property needs to earn credit and thereby economic rents for his or her efforts in the development of ideas, thereby facilitating the process of recouping investment he or she has made in the process of creating something noble and useful. Essentially, the system is designed to encourage innovation by restricting imitation of ideas by others for limited time frame in the fields of art, science, technology and industry.1

It must be mentioned at the very outset that throughout the history of IPR development, it was always the nations possessing industrial might that had insisted on both implementing IPR in their own country and imposing the same requirement in other nation states. All the agreements on IPR Conventions introduced prior to the Trade Related Aspects of Intellectual Property Rights (TRIPS) were signed mainly by the developed countries. They were the proponents of the inclusion of IPR in the multilateral trading system. Of all the issues brought into the multilateral trade regime under the auspices of the World Trade Organisation (WTO), TRIPS has been and remains the most controversial one.

Of the seven forms of IPR protection provided for in TRIPS, the one relating to patents is the most contentious. Patent protection of agricultural and pharmaceutical products was not allowed in several developed countries until three decades ago. Even the US, an ardent supporter of a strong global IPR regime, did not allow the patenting of biological products until the 1980s, though process patenting was common.<sup>2</sup> However, with the onset of TRIPS, things have moved in a radically different direction.

Patent protection on 'life forms' is the most controversial provision in TRIPS. Article 27.3(b) of TRIPS, in its first part, calls on Even the United States of America (US), an ardent supporter of a strong global IPR regime, did not allow the patenting of biological products until the 1980s, though process patenting was common.

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<sup>&</sup>lt;sup>1</sup> Adhikari, Ratnakar; Rajesh Khanal and Navin Verma (2001), National Study on TRIPS Agreement, a report prepared for Nepal Accession to WTO by Pro Public, Kathmandu.

<sup>&</sup>lt;sup>2</sup> The US Supreme Court decision in Dimond vs. Chakravarty in 1980 on patenting of Micro organism, although a close decision of 5 to 4, brought about new interpretations in patenting micro organisms. See also Dhar, Biswajit and R.V Anuradha, Access Benefit Sharing and Intellectual Property Rights, 5(5) Journal of World Intellectual Property Rights, September (2004).

South Asia is home to two of the 12 mega-biodiversity centres of the world and it has more than 15,000 endemic species of plants.<sup>3</sup> The region also forms the primary and secondary centre of diversity for many crop plants and owns large genetic diversity. WTO members to provide patent protection to micro-organisms as well as non-biological and micro-biological processes, while they are allowed to exclude plants and animals and essentially biological processes from the scope of patentability. Semantics apart, what this Article does, is to make all biotechnological invention, including Genetic Modified Organisms (GMOs) patentable. This provision conflicts with the provisions contained in Convention on Biological Diversity (CBD) — an international legal instrument signed by 187 countries for the conservation and sustainable use of genetic resources and traditional knowledge as well as assuring fair and equitable sharing of benefits between the donors and users of these resources.

The same Article, in its second part, makes it mandatory to protect plant varieties through one of the following three methods: (a) Patents; (b) An effective *sui generis* system; or (c) Any combination thereof. While we shall deal with these issues in much greater detail later, it is sufficient to say now that the system of plant variety protection tends to strengthen the rights of the economically powerful commercial breeders at the expense of subsistence farmers.

South Asia is home to two of the 12 mega-biodiversity centres of the world and it has more than 15,000 endemic species of plants.3 The region also forms the primary and secondary centre of diversity for many crop plants and owns large genetic diversity in these crops and in a few more crops introduced from elsewhere. Unlike in other biodiversityrich regions, the extent of extinction of species and genetic diversity is relatively less in South Asia, despite huge population pressures.<sup>4</sup> Moreover, more than half of the region's population is dependent on farming for their survival. Therefore, the conflicts between TRIPS and CBD have serious developmental implications for the region.

Against this backdrop, the objective of this chapter is to trace the linkage between TRIPS and CBD and other related international instruments in the context of South Asia. The chapter also provides policy recommendations on how such conflicts could be resolved in a manner consistent with the objective of conservation and sustainable use of biological diversity, and protection of related traditional knowledge along with rights of farming and indigenous communities. The chapter concentrates on a single, but most significant component of IPR, i.e. patents. This is, however, not to negate the significance of other components of IPRs, such as copyrights, trade secrets and geographical indications (GIs) and their impact on biodiversity. The chapter is organised as follows:

Section 2 deals with the linkages as well as conflict between TRIPS and CBD. Section 3 provides a brief account of global governance of IPRs. Section 4 analyses the impact of prevailing conflicts between these two instruments and their developmental implications for the South Asian region. Section 5 briefly deals with the existing national level efforts in three South Asian countries. Section 6 analyses the current state of play in terms of resolving these conflicts, including the efforts being made mainly at the WTO. Section 7 concludes with some policy recommendations for South Asian countries.

### 2. LINKAGES BETWEEN CBD AND TRIPS

### A Brief Introduction to CBD

Signed at the Earth Summit in 1992, CBD is the first decisive move undertaken by the global community to establish an international legal framework for the conservation and sustainable use of genetic resources, with the rights over such resources vested in the sovereign States. This instrument also contains a landmark provision to determine the criteria for the

<sup>&</sup>lt;sup>3</sup> Conservation International, 2005. Biodiversity hotspots. http://www.biodiversityhotspots.org/xp/Hotspots/ hotspots\_by\_ region/

<sup>&</sup>lt;sup>4</sup> Bala Ravi, S. Access and Benefit Sharing in South Asian countries: Some policy implications. Policy Brief No. 2, 2005. Kathmandu: SAWTEE. (2005).

access to genetic resources and associated traditional knowledge and the sharing of benefits arising out of their commercial use. Four Articles of the Convention — Article 8 (j), Article 15, Article 16.5 and Article 22 — are particularly relevant for the discussions in this chapter.

Article 8(j) contains provision to encourage the equitable sharing of the benefits arising from the utilisation of knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

However, this provision is couched in programmatic terms and therefore, not operative or self-executing naturally. In order to be applicable, national laws should determine how the communities' rights are to be recognised and enforced.<sup>5</sup> There are a number of other conventions and treaties that deal with the protection of traditional knowledge, biodiversity, folklore, etc.. However, these are not as effective since they are generally nonbinding in nature.

Article 15 of CBD, recognising the sovereign rights of States over their natural resources, has empowered the national authorities to determine the policy, administrative or legal measures for allowing access to their genetic resources. It sets the basic framework within which access to genetic resources is to operate and provides a basis upon which the negotiation of the terms of sharing the benefits can take place. It recognises that the authority to determine access to genetic resources rests with national governments and is subject to national legislation. It calls for access on mutually agreed terms and with the prior informed consent (PIC) (unless waived) of the source

country Party.<sup>6</sup> Upadhyay (2001) outlines three major areas contained in CBD, which asserts the supremacy of Access and Benefit Sharing (ABS issues).

Sovereign rights over natural resources: The Preamble, Articles 3 and 15(1) of CBD recognise the sovereign rights of States over their natural resources. Article 15(1), in particular, stipulates: (a) States have sovereign rights over their natural resources; (b) national governments keep the authority to determine access to genetic resources; and (c) the access to genetic resources regime is subject to national legislation.

States need to facilitate access: States are required to facilitate access to resources, subject to national laws. It may be because CBD too holds that modern biotechnology has a great potential; if developed and used with adequate safety measures for the environment and human health, it can be beneficial to human beings. Article 15(2), therefore, asks the contracting parties to create conditions to facilitate access to genetic resources for environmentally sound uses by other contracting parties, and not to impose restrictions that run counter to the CBD objectives.

*Fair and equitable sharing of benefits*: Article 15(1) prescribes benefit sharing of genetic resources in three ways, i.e., by participation in research, by transfer of technology and by sharing of financial benefits. In a nutshell, the Convention creates not only a procedural framework but also a normative premise on which the developing country, as the provider of genetic resources, and the developed country, as the user, can enter into negotiations for ensuring access and benefit sharing.<sup>7</sup>

Article 16.5 states that contracting parties shall cooperate to ensure that IPRs

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<sup>&</sup>lt;sup>5</sup> Carlos M Correa, Traditional Knowledge and Intellectual Property: Issues and Options Surrounding the Protection of

Traditional Knowledge, Discussion Paper commissioned by The Quaker United Nations Office (QUNO), Geneva (2001).

<sup>&</sup>lt;sup>6</sup> Uday Sharma, 'Draft Bill on Access to Genetic Resources and Benefit Sharing in the Context of Implementing CBD in Nepal' a paper presented at the Judges' Sensitisation Programme on Multilateral Environmental Agreement, organised by Judges Society Nepal and IUCN-The World Conservation Nepal held, 21-23 July, Biratnagar (2001).

<sup>&</sup>lt;sup>7</sup> Kedar Nath Upadhyay, 'Jurisprudence on Access to Genetic Resources: CBD & Doctrine Of Prior Informed Consent in Benefit Sharing, a paper presented at the Judges' Sensitisation Programme on Multilateral Environmental Agreement, organised by Judges Society Nepal and IUCN-The World Conservation Nepal held, 21-23 July, Biratnagar (2001).

*CBD's provisions will not affect the rights and obligations of countries to other 'existing international agreements, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity'.*  are 'supportive of and do not run counter to its [the CBD's] objectives.' There is an important political economy implication of this provision that was finalised at a time when the future IPR agreement, i.e. TRIPS, was being negotiated during the Uruguay Round negotiations of the General Agreement on Tariffs and Trade (GATT). Therefore, developed countries quietly added one more article (Article 22) — a cushion — to counter the possible negative impact of the above mentioned provisions on their industries. Due to this Article, CBD's provisions will not affect the rights and obligations of countries to other 'existing international agreements, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity'. This provision was aimed at significantly watering down the provision of Article 16.5 and seemed to have achieved its purpose to some extent. However, read together and in the spirit of CBD, there is a basis for countering the runaway march of the IPR regimes.8

### A Brief Introduction to TRIPS

The merit of inclusion of IPRs on a platform essentially meant that trade liberalisation is open to question and debate. Mehta (1997), for example, argues that TRIPS, entered into as one of the new areas under the package of GATT 1994, goes against the whole spirit of trade liberalisation ushered in by the GATT/ WTO.<sup>9</sup> Though the developing countries were cajoled into signing the TRIPS Agreement, the promised benefits of a strong global IPR regime to the South in the form of increased foreign direct investment, innovation and technology transfer have remained a mere façade. The basic objective of TRIPS as provided for in Article 7 of the Agreement is as follows:

'The protection and enforcement of intellectual property rights 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.'

The standards set out in the Agreement must be available in every WTO memberstate, either by enactment of new legislation or by amendment of existing national laws. The standards thus enacted and enforced must be without discrimination, i.e., on the basis of Most-Favoured-Nation (MFN) and National Treatment (Articles 3 and 4).

The three main features of the Agreement are:

**Standards:** In each of the main areas of intellectual property covered by TRIPS, it sets out minimum standards of protection that each WTO member must provide. This means that members are allowed to provide more extensive protection of intellectual property if they so wish. By prescribing the bare minimum standard, TRIPS has made an attempt to homogenise the global framework for intellectual property protection through the one-size-fits-all" approach. While this approach has been criticised by several institutions even in the developed countries,<sup>10</sup> it has been fiercely opposed by the developing countries.

**Enforcement:** The Agreement provides a set of provisions that deals with domestic

<sup>&</sup>lt;sup>8</sup> See Ashish Kothari, Biodiversity and Intellectual Property Rights: Can the Two Coexist? 4(2) Linkages Journal, 2, 28 May, International Institute for Sustainable Development, Winnipeg, (1999).

<sup>&</sup>lt;sup>9</sup> CUTS TRIPS, Biotechnology and Global Competition, Research Report, Consumer Unity and Trust Society, Jaipur, (1997).

<sup>&</sup>lt;sup>10</sup> See, for example, Commission on Intellectual Property Rights, Integrating Intellectual Property Rights and Development Policy: Report of the Commission on Intellectual Property Rights. September. London (2002); and Fink, Carsten Keith E. Maskus Intellectual Property and development: Lessons from recent economic research. Washington D.C: World Bank (2005). It must also be noted that most of the non-governmental developmental and/or environmental organisations are of the view that this approach is highly unrealistic.

procedures and remedies for the enforcement of IPRs. It lays down certain general principles applicable to all forms of IPR enforcement procedures. In addition, civil and administrative procedures, remedies, provisional measures, special requirements related to border measures and criminal procedures are also defined.

Dispute settlement: Disputes arising out of the infringement of IPR between WTO members are incorporated into the WTO's dispute settlement procedures. One major exception contained in Article 64.2 of the Agreement is that the cases involving the nonviolation complaint shall not apply to the settlement of disputes under this Agreement.<sup>11</sup> Here lies a major political economy of the inclusion of the TRIPS Agreement in the WTO. Non-compliance with the TRIPS provision could trigger a trade dispute, and the powerful Dispute Settlement Body of the WTO could, in an extreme case, allow retaliatory measures (sanctions) against the non-complying country.

Besides, the Agreement provides for a higher period of protection than that existed at the time of signing of this Agreement (15 April 2004). For example, the minimum period of patent protection under TRIPS is 20 years, which is even higher than what was being provided in the US (17 years) and much higher than that provided in the developing countries such as India and Nepal (seven years).

According to Article 27.1 of the Agreement, the patent shall be available for any invention, whether of products or processes, in all fields of technology. The Article further states: 'Patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.'

### Conflicts between TRIPS and CBD

TRIPS, in particular Article 27.3 (b) of the Agreement, is in direct conflict with CBD. The major controversies surrounding these debates relate to: (a) private rights vs. public rights; (b) rights of indigenous communities vs. rights of multinational pharmaceutical corporations; and (c) rights of commercial breeders vs. rights of farmers. Table 9.1 provides a detailed account of such conflicts.

Kothari (1999) views that TRIPS attempts to homogenise IPR regimes and thereby militates against a country's or community's freedom to choose the way in which it wants to deal with the use and protection of knowledge. Equally important, it contains no provision for the protection of indigenous and local community knowledge. Such knowledge, because of its nature, may not be amenable to protection under current IPR regimes. Finally, it has no recognition of the need to equitably share in the benefits of knowledge related to biodiversity.

Since most debates on TRIPS and CBD are centred on the provisions of Article 27.3 (b), the Article itself explicitly mentions: 'The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.' This part of the Article was, apparently, added towards the end of the UR negotiations at the insistence of the developing countries. However, the major problem is that the mandated review of the Article has not moved very far, as discussed later. Non-completion of this review means

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<sup>&</sup>lt;sup>11</sup> Under the Article XXIII of the GATT, a complaint can be filed on three grounds: (a) when a particular provision of the covered agreement has been violated resulting in nullification or impairment of benefits (so called 'violation' compliant); (b) when none of the provision has been violated, but the benefits have been nullified or impaired (so called 'non-violation' complaint); and (c) any other measures. This provision was initially applicable for a period of five years from the date of entry into force of the TRIPS Agreement. The TRIPS Council was responsible for providing recommendations to the Ministerial Conference on whether this five-year period should be extended. Accordingly, the Doha Ministerial, through the Doha Development Agenda (DDA), had extended this moratorium until the Fifth Ministerial Conference of the WTO. However, due to the failure of the Fifth Ministerial held in Cancun in September 2003, the General Council Decision (popularly known as the July Package) dated 1 August, which provided the broad framework for negotiations on DDA, has extended this moratorium further until the Sixth Ministerial Conference to be held in Hong Kong in December 2005.

### TABLE 1 TRIPS vs. CBD

CBD says	TRIPS says	The conflict
Nation states have sovereign public rights over their biological resources.	Biological resources may be subject to private intellectual property rights.	National sovereignty implies that countries have the right to prohibit IPRs on life forms (biological resources). TRIPS overlook this right by requiring the provision of IPRs on micro- organisms, non-biological and microbiological processes, as well as patents and/or <i>sui</i> <i>generis</i> protection on plant varieties.
The use or exploitation of biological resources must give rise to equitably shared benefits.	Patents must be provided for all fields of technology, therefore the use or exploitation of biological resources must be protected by IPR. There is no mechanism for sharing benefits between a patent holder in one country and the donor of material in another country from which the invention is derived.	CBD gives developing countries a legal basis to demand a share of benefits. TRIPS negates that legal authority.
The use or exploitation of traditional knowledge, innovations and practices relevant to the use of biodiversity must give rise to equitably shared benefits.	Patents must be provided for all fields of technology, therefore the use or exploitation of biological resources must be protected by IPR. There is no mechanism for sharing benefits between a patent holder in one country and the donor of material in another country from which the invention is derived.	CBD gives developing countries a legal basis to demand a share of benefits. TRIPS negates that legal authority.
Access to biological resources requires the prior informed consent of the country of origin. It also requires the 'approval and involvement' of local communities.	There is no provision requiring prior informed consent for access to biological resources, which may subsequently be protected by IPR.	CBD now gives states legal authority to diminish the incidence of bio piracy by requiring prior informed consent. TRIPS ignores this authority and thus promote bio piracy.
States should promote the conservation and sustainable use of biodiversity as a common concern of humankind taking into account all rights over biological resources.	The safeguarding of public health and nutrition, and the public interest in general, shall be subject to the private interest of IPR holders as reflected in the provisions of the TRIPS Agreement.	CBD places the public interest and common good over private property and vested interests. TRIPS does the exact opposite.

Source : GAIA Foundation and GRAIN (1998)

that developing countries will have to still wait for some time to resolve the acute problem of bio-piracy and theft over traditional knowledge, to which we turn now.

# BIO-PIRACY AND THEFT OF TRADITIONAL KNOWLEDGE

Since TRIPS was sponsored by the corporate interest in the North, one of the tacit objectives of this agreement was to help them maximise their profits. This would have been impossible had they not been allowed to legally pirate the indigenous knowledge, traditions and practices and native resources of the South. Since the North has financial resources, legal muscle and technical superiority and the major portion of the South<sup>12</sup> does not have anything else except biodiversity and traditional knowledge, this Agreement is increasingly being used as a means to legally transfer the bio-resource and traditional knowledge of the South to the North.

The companies that have spent large sums of money on genetically engineered crops have begun patenting the plants that they have engineered, arguing that they 'own' them and that others must pay for planting their seeds and plants. While most of the world's genetic diversity resides in the South, where farmers and their ancestors develop all the important food crops, traditional corporation (TNCs) can now patent those crops—thanks to the IPR provision set out in TRIPS—and make mega profits without compensating traditional farming communities for the original research.<sup>13</sup>

Bio-piracy is commonplace in the corporative global village, whereby TNCs of the North make use of their scientists to

#### FIGURE 1

### **Process of Bio-piracy**



Source : R. Adhikari (1999)

search for new genes located in the South, collect them and genetically alter them to 'invent' new gene. And finally, such TNCs patent them and gain control over their use. Should the local communities, that have inherited, developed and/or conserved them for generations, require using these resources, they have to pay hefty royalties. Bio-piracy works the way it is provided in Fig. 1.

Patenting life forms as mandated by the Article 27.3 (b) has already resulted in patent claims incorporating genetic resources within their scope. This feature of the patent system enables corporations to steal, misappropriate or unfairly free-ride on genetic resources and associated traditional knowledge.<sup>14</sup> The concern is that 'new' products based on such resources and traditional knowledge, are essentially reformulations of existing resources or knowledge, and differ minimally, if at all, from what already exists.<sup>15</sup>

Allowing the perpetuation of bio-piracy not only means utter disregard and disrespect to the basic spirit of CBD, but also in nonfulfilment of the basic tenets of patenting —

<sup>&</sup>lt;sup>12</sup> Some countries like Brazil, China, India and South Africa may have the capacity.

<sup>&</sup>lt;sup>13</sup> Michael Hansen, 'Biotechnology, Intellectual Property Rights and Food Security', in Food Security: the new millennium, Consumer International – Regional Office for Asia and the Pacific (CI-ROAP), Penang (1999).

<sup>&</sup>lt;sup>14</sup> Graham Dutfield, 'What is Biopiracy?' a paper presented at International Expert Workshop on Access to Genetic Resources and Benefit Sharing, organised by Comisión Nacional para el Uso y Conocimiento de la Biodiversidad (Conabio), 24-27 October, Cuernavaca, Mexico, (2004).

<sup>&</sup>lt;sup>15</sup> Dutfield (2002), argues that as the volume of patent applications rapidly increases and the ability of national and regional patent offices to process them properly becomes an ever more acute concern, the granting of patents for 'inventions' that privatise parts of the public domain has become a huge controversy that has brought the whole patent system into disrepute.

one that is in stark contrast with the provision of TRIPS. As argued by Dhar and Anuradha (2004), the conflicts that emerge when patents are granted on products of biological resources are not simply social, political or economic, but rather, strike at the very root and basis of the patent system.<sup>16</sup>

For any patent to be granted it has to fulfil three criteria. First, the claimed invention has to be new or novel (so called 'novelty' requirement in IPR jargon). Mere 'discovery' of something that is pre-existing in nature or is part of the knowledge system of the society anywhere in the world cannot be patented. If someone can prove the existence of 'prior art' and challenge the patent, it stands revoked. Second, the claimed invention must have followed an inventive step (the so-called 'inventive step' requirement in IPR jargon), which means that there must be a demonstrable, distinct and unique effort, which has gone into the product or process for it to be capable of seeking patent protection. Third, the claimed invention should be capable of industrial and/ or commercially meaningful application (the so-called 'industrial applicability' requirement in IPR jargon).

Most of the bio-piracy taking place in the present day world not fulfil the first two criteria of patentability. Despite this, patent offices in developed countries have been extremely liberal in granting patents even on such claimed inventions as are either merely discoveries or have not involved any substantial inventive step.

Table 2 lists some of the properties of the select biological resources, which have been in use in the developing countries, but patented by individuals and entities in the developed countries.

Countries and regions such as South Asia, which are rich in bio-diversity and traditional knowledge, are particularly susceptible to bio-

S. No	Local/English name	Botanical name	Endemic to	Prior art/use	Main Patent provided to/for	Patent No.
1	Quinoa	chenopodium quinoa	Andes Region	Staple food crop	Professors from Colorado State University for Apelawa, a traditional variety of Quinoa	ÙS 5,304,718
2	Ayahuasca	banisteriopsis caapi	Amazon Basin	Medicinal plant	International Plant Medicine Corporation (IPMC) for developing psychiatric drugs	US PP 5,751
3	Basmati Rice		South Asia	Premium food	RiceTec for long grain, aromatic variety of rice	US 5,663,484
4	Bitter Melon or Karela	momordica charantia	Asia	Anti-infection, anti-tumour	National Institutes of Health and New York University; the use of the bitter melon's protein for treating tumours and HIV	US 5,484,889, US 5,900,240, EP 552,257, JP 6,501,689
5	Neem	azadirachta indica	Asia	Pesticide, contraceptive, toothpaste, etc.	W R Grace, Native Plant Institute, Japanese Terumo Corporation, for pesticide and toothpaste, etc	US 5,411,736, US 5,409,708, EP 436,257
6	Turmeric	curcuma longa	South Asia	Wound healing	University of Mississippi Medical Centre, for wound healing property	US 5,401,504 (See Box 1)

### TABLE 2 Bio-piracy in Action

Compiled from: Traditional Ecological Knowledge Prior Art Database (TEK PAD), available at:

http://ip.aaas.org/tekindex.nsf/Biopiracy%20Hot%20List?OpenPage&AutoFramed

<sup>&</sup>lt;sup>16</sup> Biswajit Dhar, and R.V Anuradha (2004), Supra note 2.

piracy. Unless efforts are made to zealously guard these resources, bio-piracy will continue unabated. A few examples of biopiracy that the South Asian communities have encountered are worth highlighting here.

Several medicinal properties of plants, fruits and vegetables, which have been used by traditional healers of South Asia from time immemorial, have been patented by various companies in the developed countries.<sup>17</sup> Sixty five properties of neem,<sup>18</sup> two properties of bitter gourd and six properties of turmeric,<sup>19</sup> and three properties of jackfruit have been patented by companies and institutions mainly from the US, Europe and Japan. Among these, the patent on Use of Turmeric in Wound Healing became quite controversial, not least because it was later struck down by the concerned authority (Box 1).

One way of preventing bio-piracy is the documentation of genetic resources and traditional knowledge found in each country. This will at least help the country to challenge the grant of such patent through the documentary evidence of pre-existence of such resources or knowledge.

### 3. GLOBAL GOVERNANCE OF IPR

The WTO is the supreme institution armed with, among others, an effective dispute settlement system as far as global governance of IPR is concerned. However, even prior to the WTO, the World Intellectual Property Organisation (WIPO) was dealing with IPR

### BOX 1

### How was the Turmeric Patent Revoked?

The United States Patent and Trademark Office (USPTO) granted US Patent 5,401,504 on 28 March 1995 on the Use of Turmeric in Wound Healing to University of Mississippi Medical Centre. It is common knowledge in most South Asian countries that Turmeric has numerous properties—including wound healing. While granting the patent, either the USPTO did not examine whether such knowledge was pre-existing or the researchers at the University of Mississippi misled the USPTO arguing that they fulfilled all the criteria for patentability.

By granting such a patent, the USPTO provided legal cover to bio-piracy—a University in the US was provided patent protection for knowledge that was preexisting in South Asia for several centuries. The original creators or donors, whose knowledge was used in the process of obtaining the patent, were not compensated in any manner whatsoever.

Fortunately, the patent was successfully challenged by the Centre for Scientific and Industrial Research (CSIR) — an Indian government undertaking. Subsequently, the patent was revoked. What was spine chilling was the very idea that an exclusive right to sell and use turmeric for the purpose of wound healing as claimed in the patent was granted to the University. Had the patent not been challenged, the University would have been able to license the patent to a company, which, in turn, would have charged a hefty royalty to the inhabitants of South Asia for having used the wound-healing property of turmeric in their daily lives!

Adapted from: Dhar and Anuradha (2004)

as its prime mandate. At the same time, the International Union for the Protection of New Varieties of Plant (UPOV), an independent institution, but housed within the WIPO,<sup>20</sup> was also dealing with one particular form of intellectual property protection, i.e. plant breeders' rights prior to the WTO coming into being. Since an extensive discussion has been already made on the role of the WTO and some other issues (particularly in relation

<sup>&</sup>lt;sup>17</sup> Adhikari, Ratnakar; Rajesh Khanal and Navin Verma (2001), Supra note 1.

<sup>&</sup>lt;sup>18</sup> Of these patents, a patent on the pesticide property of neem granted by European Patent Office (EPO) was successfully contested by the EU Parliament's Green Party, Dr Vandana Shiva of the India-based Research Foundation for Science, Technology and Ecology, and the International Federation of Organic Agriculture Movements in May 2000. The patent was granted by EPO in 1995 to the US Department of Agriculture and the chemical company WR Grace for a process to extract oil from the neem tree for use as a plant pesticide. See 'Patent to extract oil from neem tree withdrawn,' The Economic Times, 12 May 2000, New Delhi; and ICTSD (2000); 4(20) BRIDGES Weekly Trade News Digest - 23 May, 2000, Geneva.

<sup>&</sup>lt;sup>19</sup> Of these patents, one on wound healing property has been successfully contested by Council for Scientific and Industrial Research (CSIR). See R Adhikari, (2000), 'The World Trade Organisation and Imperatives of Bio-diversity Registration', a paper presented at a National Workshop on Bio-diversity Registration', organised by National Planning Commission and Ministry of Forest and Environment, Lalitpur, Nepal, 25-26 May, 2000: 16.

<sup>&</sup>lt;sup>20</sup> As per the Agreement signed between WIPO and UPOV, the former is responsible for providing an office space to the latter and handles all the administrative matters relating to day-to-day functioning of the same (Article 1). Moreover, the Director General of WIPO also serves as the Secretary-General of UPOV (Article 4). See UPOV (1982), Agreement between the World Intellectual Property Organisation and International Union for the Protection of New Varieties of Plants, UPOV/ INF/8, 26 November, Geneva.

Due to the increasing attention being paid by the developed countries to shift the debate on patenting from the WTO TRIPS Council to other forums with a view on ratcheting the global standards on intellectual property protection, developing countries should understand the intricacies involved.

to the review of TRIPS) will be discussed later, this section will focus only on WIPO and UPOV on the institutional front.

# World Intellectual Property Organisation

There was a plethora of IPR related instruments such as the Convention for the Protection of Industrial Property (1883) (Paris Convention); Berne Convention (1886); and Rome Convention (1980); even before TRIPS came into force. In order to better coordinate these instruments, WIPO was created at Stockholm on 14 July 1967, as a specialised agency of the United Nations. WIPO's twin objectives are: (a) promoting the protection of intellectual property throughout the world through cooperation among states and, where appropriate, in collaboration with any other international organisation; and (b) ensuring administrative cooperation among the various unions dealing with IPR issues.

As per the proponent of the inclusion of IPRs into the WTO, WIPO failed to deliver what it was supposed to, because of two major shortcomings. First, there was an absence of detailed rules on the enforcement of rights before national judicial administrative authorities, which resulted in the apathy of the national authorities, particularly in developing countries to prosecute those involved in infringement of IPRs. Second, there was an absence of a binding and effective dispute settlement mechanism at the international level.<sup>21</sup> One of the major reasons to bring TRIPS within the ambit of the WTO was to provide 'teeth' to the global IPR regime.<sup>22</sup>

However, after the creation of the WTO, the role as well as significance of WIPO has considerably increased. Two major areas in which WIPO's activities are relevant to the present discussion are: (a) patent agenda; and (b) traditional knowledge, genetic resources and folklore.

### WIPO Patent Agenda

Due to the increasing attention being paid by the developed countries to shift the debate on patenting from the WTO TRIPS Council to other forums with a view on ratcheting the global standards on intellectual property protection, developing countries should understand the intricacies involved.<sup>23</sup> In this context, the significance of the WIPO patent agenda cannot be overlooked. The main activities under the Patent Agenda relate to the following:

Efforts to promote the ratification of the Patent Law Treaty (PLT): The PLT entered into force on 28 April 2005, three months after 10 States had deposited their instrument of ratification or accession. Adopted in Geneva on 1 June 2000, the PLT's aim is to harmonise and streamline formal procedures with respect to national and regional patent applications and patents, thus making such procedures userfriendlier.24 However, one questionable aspect of the PLT is the relaxation of the conditions for admission of a patent application and the determination of the application date under Article 5(1), a condition that is crucial for the assessment of novelty and inventive step, as well as to establish the right to a patent grant in case of rival claims.25

<sup>&</sup>lt;sup>21</sup> See Vijay Katti, and Somasri Mukhopadhyay (2000), 'Intellectual Property Rights under World Trade Organisation' in B. Bhattacharyya, (ed.) Seattle and Beyond: The Unfinished Agenda, Indian Institute of Foreign Trade (IIFT), New Delhi.

<sup>&</sup>lt;sup>22</sup> See Section 2.2 above.

<sup>&</sup>lt;sup>23</sup> While for some time WIPO has been sidelined and only seen as a technical service provider, recently, and to some extent as a reaction to the (relative) diplomatic success of developing countries at the WTO, WIPO has started to be seen by developed country trade negotiators as a forum in which further expansion of patent rights can be pushed forward. See May Christopher (2003), The Global Governance of Intellectual Property Cosmopolitan legalism meets 'thin community' Presented at panel 11: The Governance of Global Issues: Effectiveness, Accountability and Constitutionalisation, European Consortium for Political Research, Joint Sessions of Workshops, University of Edinburgh, 28 March - 2 April 2003.

<sup>&</sup>lt;sup>24</sup> http://www.wipo.int/treaties/en/ip/plt/summary\_plt.html

<sup>&</sup>lt;sup>25</sup> South Centre (2002), Supra note 23.

Reform of the Patent Cooperation Treaty (PCT): The PCT was concluded in 1970, amended in 1979 and modified in 1984 and 2001. By filing one international patent application under the PCT, and designating any or all of the PCT Contracting States, one can simultaneously seek patent protection for an invention in each of a large number of countries. <sup>26</sup> The process of reforming the PCT started in 2000. It is geared towards introducing amendments to the treaty to simplify and streamline procedures while at the same time aligning it to the new PLT standards.27 Aimed at enhancing the costeffectiveness of the patent, the system could move away from its current, non-binding patentability options and adopt procedures where substantive rights could eventually be granted via the PCT. This approach would not only mean that most national patent offices would become superfluous but, more importantly, that the current flexibilities permitted by TRIPS with regard to rules on patentability and exceptions thereto would be eliminated.28

Negotiations on a Substantive Patent Law Treaty (SPLT): The negotiations and discussions on SPLT are taking place in the WIPO Standing Committee on the Law of Patents (SCLP). This work is aimed at initially creating uniform substantive patent law standards relating to issues of prior art, novelty, utility and inventiveness, requirements relating to sufficient disclosure, drafting and interpretation of claims, grounds for refusal of an application, and for revocation and invalidation of a patent.<sup>29</sup> The draft treaty, ostensibly aimed at enhancing the efficiency of the patent granting process and reducing the cost, time and resources for the patentee/patent applicants, appear highly intrusive. It contains only one exception, i.e., security exception and public interest exception is currently implying

that the same is subject to negotiations. Another exception, probably proposed by the developing countries states: 'Nothing in this Treaty and the Regulations shall limit the freedom of a Contracting Party to take any action it deems necessary ...to comply with international obligations, including those relating to the protection of genetic resources, biological diversities, traditional knowledge and the environment.'

The bias of the SPLT towards the patent applicants is manifest in Article 5 (a) and (b) of the draft. While Article 5 (a) effectively sets a limit on what contracting parties could ask the patent applicant to submit/prove for the grant of a patent anything beyond what is required as per the PCT, Article 5 (b) states: 'Contracting Party shall be free to provide for requirements which, from the viewpoint of applicants and patentees, are more favourable than the requirements referred to in subparagraph (a)....' Needless to say, SPLT, if adopted in its current form would spell disaster for the developing countries since it is designed to erode the flexibilities contained in TRIPS. However, the reason for the delay in adopting the treaty is not solely the opposition of the developing countries, but also due to the divergence of opinion between the US and EU over the issue of 'first to file' versus 'first to invent.'

## Traditional Knowledge, Genetic Resources and Folklore

Since1998, WIPO has undertaken a programme that explores emerging IP issues. The WIPO Intergovernmental Committee on Intellectual Property and Traditional Knowledge, Genetic Resources, and Folklore was established in 2000 with the mandate to discuss: (a) access to genetic resources and benefit sharing, (b) protection of traditional knowledge, and (c) protection of expressions of folklore.

<sup>&</sup>lt;sup>26</sup> WIPO (2002), Basic Facts about Patent Cooperation Treaty. Geneva: WIPO.

<sup>&</sup>lt;sup>27</sup> Ibid.

<sup>&</sup>lt;sup>28</sup> WIPO (2002).

<sup>&</sup>lt;sup>29</sup> Ibid.

The recognition and enforcement of customary law as a form of protection that respects cultural diversity, has been largely overlooked. While informative and technically solid, the analysis undertaken by the WIPO Secretariat for the Intergovernmental Committee has attempted to explain traditional and indigenous practices of conservation, and transmission of knowledge under established IP concepts, thereby ignoring the traditional and indigenous communities' views on the creation, use and sharing of knowledge.<sup>30</sup> In its attempts to moderate such criticism, WIPO is planning to enhance the participation of these communities as is evident from the decision of the Eighth Session of Committee recently held from 6 to 10 June 2005, which prepared a set of proposed recommendations to be submitted to the General Assembly with a view to enhancing the participation of indigenous and local communities in these processes.31

WIPO has also addressed the possible development of a *sui generis* regime for traditional knowledge. The recognition and enforcement of customary law as a form of protection that respects cultural diversity, has been largely overlooked.<sup>32</sup> During the Fifth Session of the Intergovernmental Committee, when the discussion was conducted on whether to prolong the mandate of the Committee or to start negotiations with a view to drafting a substantive agreement, the African Group demanded an immediate start of negotiations on 'a legally binding international instrument on genetic resources, traditional knowledge and folklore.' In contrast, the developed countries, notably the US, demanded that the mandate of the Committee be renewed for a straight period of four years.33 The US went to the extent of commenting that developing a new IPR regime in this area does not appear to be the best fit even for the holders of such knowledge. It further argued that there are so many different expectations, goals and native systems, for approaching ownership and the transgression of ownership and a useful, enforceable global system would be virtually impossible to create.34 With such entrenched positions among the members, it is highly unlikely that these issues will be resolved soon in an amicable manner.

## INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

The Union for the Protection of New Varieties of Plants (UPOV) was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and was revised in 1972, 1978 and 1991.<sup>35</sup> The objective of the Convention is the protection of new

<sup>&</sup>lt;sup>30</sup> CM Correa, Recent International Development in the Area of Intellectual Property Rights, paper presented at ICTSD-UNCTD Dialogue, 2nd Bellagio Series on Development and Intellectual Property, 18-21 September 2003: 7.

<sup>&</sup>lt;sup>31</sup> See WIPO (2005) Participation of Indigenous and Local Communities: Revised Proposed Recommendation to the General Assembly for the Establishment of a Voluntary Contribution Fund, Intergovernmental Committee on Intellectual Property And Genetic Resources, Traditional Knowledge and Folklore, Eighth Session, June 6 to 10, Geneva.

<sup>&</sup>lt;sup>32</sup> For instance, a draft legislation prepared by the WIPO Secretariat for Venezuela proposes the granting of a set of exclusive rights essentially similar to those required under Article 28 for patents, and makes protection of TK dependent on a disclosure requirement and the registration of knowledge. A similar approach inspired the law for the protection of TK adopted by Panama (Law No. 20, 26 June, 2000 and Executive Decree No. 12, 20 March 2001). In order to be protectable, TK must be capable of commercial use (Law, Article 1) and based upon tradition, although it need not be 'old' (Law, Article 15). The knowledge must be registered and published, and protection is granted upon examination. Collective rights under the Panama's law are exclusive. They allow titleholders to authorise or prevent use and commercialisation (Article 15) and industrial reproduction (Law, Article 20), for an indefinite time. See Ibid for details.

<sup>&</sup>lt;sup>33</sup> See Ibid. for details.

<sup>&</sup>lt;sup>34</sup> See Carlos M. Correa, (2001), Supra note 3.

<sup>&</sup>lt;sup>35</sup> Each amendment to UPOV progressively strengthened the protection afforded to plant breeders. Compared to the earlier versions, UPOV 1991 provides the highest possible level of protection to the breeders, severely diluting Farmers' Privilege and restricting farmers' rights to save, reuse, exchange and sell seeds. For example, Article 15.2 of the latest UPOV Convention is in sharp contrast to the earlier system, which had allowed farmers to reuse protected materials without paying any royalty to commercial breeders. But the new provisions allow farmers to reuse protected material only if the 'legitimate interests of the breeders' are taken care of - the legitimate interests being nothing but the royalty that the breeders should be paid. The FAO views it as 'downgrading of the Farmers' Privilege'. See Dhar, Biswajit (2002), Sui Generis System for Plant Variety Protection: Options under TRIPS, Discussion Paper, Quaker United Nations Office (QUNO), Geneva.

varieties of plants by an IPR.<sup>36</sup> The UPOV Convention was adopted on 2 December 1961, by a Diplomatic Conference held in Paris. Starting with the membership of three European countries (Germany, the Netherlands, and the United Kingdom), as of 29 June 2005, 59 countries (including European Community) have become the signatories to this Convention.<sup>37</sup> Backed by the vested interests of breeding and seed companies of the North, which want to perpetuate monopoly rights on seed and plant varieties, this organisation has been emerging as a powerful institution.

Among the three options for plant variety protection (PVP) under Article 27.3 (b) of TRIPS, developing countries have chosen the effective sui generis (of its own kind) option. Through this option, countries can design and implement PVP laws according to their national interests and local realities. But unfortunately, due to the pressures from developed countries, they are encountering several hindrances. Since the definition of the word 'effective' is still ambiguous, developed countries have been insisting that the UPOV Convention is the only effective sui generis model for PVP and are making use of several coercive practices through multiple routes to compel the developing countries become a member of UPOV. Three such routes are particularly noteworthy.

*WTO accession:* Due to the fundamentally flawed provision on WTO accession, which puts acceding countries at a considerable disadvantage in terms of negotiating power, incumbent members could exert considerable pressure on the acceding countries. Taking advantage of this asymmetry, developed countries impose several WTO-plus conditions on the acceding countries. UPOV's membership figures invariably in the list of such conditions. Countries like China, the Kyrgyz Republic, Cambodia and several Eastern European countries have already caved under the pressure. The only exception is Nepal, which too was under severe pressure to join UPOV, but managed to elude this due to the concerted and coordinated efforts of the Nepalese civil society organisations (CSOs) and the government in resisting the same.<sup>38</sup>

Bilateral trade agreement: When a developing country signs a bilateral trade agreement (BTA) with a developed country, it is always at the more disadvantaged end. In such an agreement, quite akin to WTO accession, developed countries tend to impose several onerous WTO-plus conditions to the developing countries. Three Asian countries, which have signed bilateral trade agreements with the US so far (Jordan, Singapore and Vietnam), have been forced to become UPOV members. Similarly, as per the condition of the EU-Lebanon BTA, the later is required to accede to UPOV, 1991 within five years.<sup>39</sup> Likewise in the case of a BTA between European Free Trade Area (EFTA) and Jordon, the latter is required to become a member of UPOV by 1 January 2006 (See Annex 9.1).

Aid agreement: At the time of signing aid agreements, the country at the receiving end is particularly vulnerable. In 1999, as a part of EU's trade and aid agreement with Bangladesh, the latter was asked to become a member of UPOV.<sup>40</sup> However, due to pressures from Bangladeshi CSOs, the country has been resisting the pressure to become a member of UPOV so far.

The UPOV model is suitable only for the developed countries, where farming is a commercial activity, farmers constitute only

<sup>&</sup>lt;sup>36</sup> www.upov.org

<sup>&</sup>lt;sup>37</sup> UPOV (2005), Members of International Union for the Protection of New Varieties of Plant. Geneva: UPOV.

<sup>&</sup>lt;sup>38</sup> See Adhikari, Ratnakar and Kamalesh Adhikari (2003), UPOV: Faulty Agreement, Coercive Practices, Policy Brief 5, 2003, SAWTEE, Kathmandu.

<sup>&</sup>lt;sup>39</sup> Lucas, Caroline (2003), TRIPs, UPOV and Farmers' Rights. Question to European Parliament, 25 March. Brussels.

<sup>&</sup>lt;sup>40</sup> As per Article 4.5 (c) Annex II.2, Bangladesh shall endeavour to accede to UPOV 91. See Cooperation Agreement between the European Community and the People's Republic of Bangladesh on partnership and development, 21 May, Official Journal of European Communities, Brussels: European Community Secretariat.

in a country like India, over 80 percent of farmers use seeds that have either been saved from their own farms or have been supplied by another farmer. If any of these practices were to be curtailed, they would face serious problems in sustaining their livelihood. one to five percent of the total population,<sup>41</sup> and the loss of agri-biodiversity is a nonissue. However, this is not suitable for the developing countries, particularly those in South Asia, due to the following reasons:

*Traditional practices:* Saving, planting back, exchanging, and selling seeds are the traditional practices farmers in developing countries have been practising ever since crops were domesticated. For example, in a country like India, over 80 percent of farmers use seeds that have either been saved from their own farms or have been supplied by another farmer. If any of these practices were to be curtailed, they would face serious problems in sustaining their livelihood.

*Subsistence farming:* Unlike in developed countries, agriculture is not a matter of 'trade and business' for developing countries, it is a matter of livelihood for a majority of farmers in South Asia. Most of the population comprises farmers, whose main livelihood is farming, and their economies are heavily dependent on agriculture.<sup>42</sup> Due to the subsistence agriculture they practise, they cannot afford to purchase excessively priced seeds from TNCs.

*Capacity and resource constraints:* Farmers play a significant role as breeders of new varieties of plants. They often release very successful varieties by crossing and selection from their fields. These varieties are released for use as such or are taken up by agriculture research stations as breeding materials for producing other varieties.<sup>43</sup> However, farmers cannot achieve the scale required to meet the need of commercial production of seeds. Obtaining a UPOV-authorised Breeders Right Certificate could cost several thousands or even hundreds of thousands. Such rates will effectively preclude the participation of developing countries small companies, farmers cooperatives and farmer-breeders. Only the largest seed companies of the developed countries or their subsidiaries in developing countries can afford to obtain this certificate.<sup>44</sup>

*No provision of benefit sharing*: UPOV is opposed to benefit sharing between the donors and receivers of the genetic resources and traditional knowledge. For example, in a response to the CBD Secretariat, UPOV had made it clear that any incorporation of formal requirement relating to regulation of access and benefit sharing and of, prior informed consent (which are fundamental means to achieve the objectives of CBD).<sup>45</sup>

Perpetuation of monopoly: Private seed supplies account for about one-third of the total value of the seed industry, out of which almost 30 percent is shared by top 10 companies. Moreover, of the total intellectual property on agricultural biotechnology, seven companies enjoy an 82 percent share. The spate of mergers and acquisition that is taking place in the global seed industry is further hastening the process of monopolisation in the seed industry. <sup>46</sup> Since they feel that farm-saved seed still account for the majority of seeds supply in the world (particularly in developing countries), they are making all possible efforts to drive farmers away from the seed supply market. This trend is likely to accentuate in days to come, due in part to the UPOV's requirements.

Perpetuation of monoculture farming: The typical UPOV criteria for plant variety protection—distinctiveness, uniformity,

<sup>&</sup>lt;sup>41</sup> Dhar, Biswajit (2002), Sui Generis System for Plant Variety Protection: Options under TRIPS, Discussion Paper, Quaker United Nations Office (QUNO), Geneva

<sup>&</sup>lt;sup>42</sup> See Adhikari and Adhikari (2003), Supra note 38.

<sup>&</sup>lt;sup>43</sup> See Sahai, Suman (2003), 'CoFaB: A Developing Country Alternative to UPOV' in Ratnakar Adhikari and Kamalesh Adhikari (eds.) Farmers' Rights to Livelihood in the Hindu Kush Himalayas, SAWTEE, Kathmandu.

<sup>&</sup>lt;sup>44</sup> Ibid.

<sup>&</sup>lt;sup>45</sup> UPOV (2003) Access to Genetic Resources and Benefit-Sharing: Reply of UPOV to the Notification of 26 June, 2003, from the Executive Secretary of the Convention on Biological Diversity (CBD), 23 October. Geneva.

<sup>&</sup>lt;sup>46</sup> Pasadilla, Gloria and Adhikari, Ratnakar (2004), Seed Industry Concentration: Implications for the HKH Farmers. Policy Brief, No. 7, 2004. Kathmandu: SAWTEE.

stability, and novelty—encourage breeding for monoculture production systems and are irrelevant to farmers who do their own breeding to produce genetically diverse seeds.<sup>47</sup> Monoculture farming is inimical to the conservation and sustainable use of biodiversity due to the genetic erosion it ensues.

Restrictions on adaptive research: In developing countries where almost all agricultural research and plant breeding are done by public sector research undertakings, following the UPOV model would that the research institutions cannot claim their ownership over new varieties developed by them through adaptive research because of the narrowly defined rules on 'essentially derived varieties'. The rare studies conducted in countries where PVP has been in effect for decades, such as the US, show that this kind of legal system has resulted in the following: (a) little impact in terms of stimulating plant breeding; (b) reduced information and germplasm flows from the private to the public sector; (c) a decreased role for public plant breeding; and (d) increased seed prices for farmers.48

### Forum shifting to achieve TRIPS-plus objectives

Discussions on global governance of IPR remains incomplete without an analysis of the forum shifting tactic the developed countries are currently adopting with a view to imposing TRIPS plus standards on the developing countries. Since developed countries are encountering opposition from the developing countries at the WTO, which constitute a majority of its membership and are also under pressure to agree to the demands of the developing countries for preventing biopiracy and misappropriation of traditional knowledge, these countries are moving away from the WTO to other platforms, where they could better influence the outcomes. The WIPO patent agenda is such a case in point.

The two other platforms which are being used for imposing TRIPS plus standards are Regional Trade Agreements (RTAs) and BTAs. A few examples of RTAs and BTAs having forced the developing partner countries to adopt TRIPS-plus standards are provided in Annexure 1. Some of these BTAs do not only make it mandatory for the developing countries partners to become a member of UPOV within a well-defined target date, but also compel them provide protection to plants and animals — none of which are the requirements of TRIPS.

One major problem, which has become evident due to the forum shifting practices of the major global players, is the lack of coordinated response from the developing countries — both at the country level as well as international level. These anomalies as described by Latif (2005) include the following:

Lack of inter-ministerial coordination: Trade officials participating in TRIPS Council meetings and officials from patent offices participating in WIPO meetings do not speak the same language. While delegates of the major developing countries are able to make significant contribution during TRIPS Council discussions, their colleagues from the patent offices are not able to make similar contribution during WIPO forums.

Lack of coordination among developing countries: As a consequence of the above mentioned problem, developing country delegates are falling far behind their developed country counterparts in terms of making substantive contributions during WIPO negotiations. Joint submission of papers and proposals, which is a norm in the TRIPS Council discussion, is rarely found in the WIPO. The near exclusive focus of developing

<sup>&</sup>lt;sup>47</sup> GRAIN (2001), Intellectual Property Rights: Ultimate Control of Agricultural R&D in Asia, Barcelona.

<sup>&</sup>lt;sup>48</sup> 26 See Butler, L.J. and B.W. Marion, The Impacts of Patent Protection on the US Seed Industry and Public Plant Breeding, University of Wisconsin, 1985; Butler, L.J 'Plant Breeders' Rights in the US: Update of a 1983 Study, in Intellectual Property Rights and Agriculture in Developing countries, J van Wijk and W Jaffe (eds), University of Amsterdam, 1996.

One of the worstcase scenarios of GM contamination is already happening in Mexico, where local varieties of a major food crop, maize, have become contaminated with GM maize. countries on TRIPS has been, in particular, to the detriment of their effective participation in WIPO's standard-setting activities.

Impact of bilateral agreements: Those developing countries that have already agreed to a much higher standard of intellectual property protection while signing BTAs with Northern countries tend to find it difficult to propose lower standards in the multilateral forums. Since coordination between developing countries in international IP standard-setting is a function of their international obligations, one could expect these agreements to weaken the coordination between developing countries in IP standardsetting activities.

# 4. Development implications for South Asia

This section looks at the development implications of these international instruments on South Asia against the backdrop of the huge dependence of South Asian communities on biodiversity and related traditional knowledge for their livelihood, food security and other development related needs. It may be noted that most of these developmental implications are intimately intertwined.

### Loss of biodiversity

Not only by providing legal cover to biopiracy but also institutionalising the same, TRIPS and various TRIPS-plus measures are likely to accentuate the piracy of genetic resources and theft of traditional knowledge, unless mitigating measures are taken at the national, regional and international levels.

Moreover, the patenting of 'life forms' is likely to result in further genetic erosion due to increase in monoculture farming practices which reduces the number of varieties available over time. Similarly, gene flow from GM plants could affect the genetic diversity of traditional locally bred varieties or landraces of crop plants. One of the worst-case scenarios of GM contamination is already happening in Mexico, where local varieties of a major food crop, maize, have become contaminated with GM maize. Growing the GM maize has now resulted in contamination of local traditional varieties through cross-pollination. This GM contamination will be extremely difficult, or maybe impossible to eliminate,<sup>49</sup> perpetuating the loss of biodiversity.

The utter disregard to the principal norms of CBD — access and benefit-sharing and prior informed consent, which are the essential incentives to conserve/preserve the genetic resources traditional knowledge and simultaneously encourage biotechnology, and ultimately make maximum use of them for sustainable development is likely to result in apathy of the farmers and local and indigenous communities.

### FARMERS' LIVELIHOOD

Loss of genetic resources, traditional skills, practices and knowledge, resulting from patenting of life forms is bound to narrow down the livelihood options of the farmers. More than this, the curtailment of farmers' rights (see Box 2) will seriously affect farmers' livelihood. Further, due to the increasing clout of UPOV and virtually unfettered quest for strengthening the breeders' rights, farmers' rights are going to be jeopardised.

In order to make farmers dependent on multinational corporations a two-pronged strategy is being adopted, both technological and legal. The technological strategy entails the use of terminator (seed sterility) technology, which makes it technically non-feasible to save the seed for future plantation. The legal strategy, being pushed through UPOV, entails stripping farmers of the right to save seeds. As a consequence of both the measures, farmers are obliged to pay near monopoly

<sup>&</sup>lt;sup>49</sup> Dooren Stabinsky, and Janet Cotter, Genetically Engineered Rice – Not Sustainable Agriculture, September, Amsterdam: Greenpeace International, (2004).

prices for the purchase of seeds. The way seed concentration is taking place globally, it is not difficult to imagine how the rise in seed prices will affect the input purchasing capacity of the farmers.

### Food security and safety

As discussed above, when farmers purchase seeds at relatively higher prices, they will be justified in charging higher prices for the commodities they produce. This will result in higher prices for the consumers and the poor are likely to suffer and become the victims of food insecurity. Similarly, farmers, who are the food producers as well as major consumers of the region. When the farmers are displaced from their lands, they face problems in increase in food prices and food, which is not an uncommon phenomena.

Another problem related to use of GMO is that, for their plantation to be successful, excessive use of other chemical inputs is needed,<sup>50</sup> which could further increase the price of the final product. One argument could be that the increased production will ultimately compensate the increased input prices. While this argument is theoretically sound, the increased crop failure of GM variety as seen, for example, in India puts a question mark on this argument.<sup>51</sup>

Further, loss of genetic diversity, which is triggered by patenting on life forms, could reduce the availability of new genes that are required to be infused in the existing plant varieties for cross-breeding in order to enhance their productivity.

As far as the issue of food safety is concerned, antibiotic resistance and allergens are of particular concern. GMOs are developed by linking the target gene (e.g. for insect resistance) to a gene of an easily identifiable

### BOX 2

### Farmers' Rights as Defined in ITPGRFA

ITPGRFA was approved by FAO Conference on 3 November 2001. It came into effect from 29 June 2004. Article 9 of the instrument defines farmers' rights as follows:

9.1 The Contracting Parties recognise the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

9.2 The Contracting Parties agree that the responsibility for realising Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmers' Rights, including: (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture; (b) the right to equitably participate in sharing benefits arising from the utilisation of plant genetic resources for food and agriculture; and (c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

9.3 Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm saved seed/propagating material, subject to national law and as appropriate.

Source: Correa, Carlos M. (2002)

('marker') trait. The most widely used marker gene confers resistance to a particular class of antibiotics. Although current research is moving towards less controversial markers, most GMOs currently available carry an antibiotic resistance gene. The possibility of the incorporation of antibiotic resistance in humans, or in the animals that consume GMOs as feed, causes understandable concern.<sup>52</sup> Similarly, GM food could also contain some allergens, which should not be consumed by people allergic to such substance. In the absence of proper labelling, inadvertent consumption of such products could cause allergic reactions.

<sup>&</sup>lt;sup>50</sup> D. Stabinsky and J. Cotte (2004).

<sup>&</sup>lt;sup>51</sup> See, for example, a relevant article written in the context of a non-food crop, i.e., Suman Sahai, (2005), 'The Science of Bt Cotton failure in India', The Hindu, 29 August.

<sup>&</sup>lt;sup>52</sup> ODI (1999), The Debate on Genetically Modified Organism: Relevance for the South, Briefing Paper, 1, January, Overseas Development Institute, London.

However, to the utter dismay of the developing countries, this issue was completely sidelined by the Council for TRIPS during the run-up to the Cancun Ministerial.

### Poverty

The access and benefit-sharing regime, if implemented and respected by patent applicants, could potentially take millions of poor farmers and indigenous communities of South Asia out of the poverty trap. However, TRIPS and UPOV, in their current forms, do not even encourage such practices. This will further exacerbate the problems of poverty in South Asia.

Another issue which is related to the matter of food security, discussed above, is that increased food prices could lead to deterioration of purchasing capacity of the poor people. Since poor people would then have to spend most of their income to purchase food, they will be left with very limited resources to spend on other basic needs such as clothing, shelter, health and education. They could be trapped into a vicious circle of poverty. Moreover, the loss of biodiversity, on which they depend heavily for their survival, could exacerbate poverty.

### 5. CURRENT STATE OF PLAY

The review of Article 27 3 (b) of TRIPS was to start in 1999. However, it got off to a shaky start due to the division between the developed countries and developing countries — with the former interpreting the review as the 'review of implementation experience' and the latter insisting on substantive review. Even when the review started, all that the TRIPS Council did during the period leading up the Doha Ministerial in 2001 was to collect information and position papers from the interested members. Members submitted their position papers, with most developing countries arguing in favour of striking a balance between TRIPS and CBD by incorporating a disclosure requirement<sup>53</sup> and the developed countries, in general, opposing such a requirement.

At Doha, trade ministers decided to instruct the Council for TRIPS to examine the relationship between TRIPS and CBD. Paragraph 19 of the Doha Declaration, in relevant parts, reads:

'We instruct the Council for TRIPS, in pursuing its work programme including under the review of Article 27.3(b), to examine, *inter alia*, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore and other relevant new developments raised by Members....'

However, to the utter dismay of the developing countries, this issue was completely sidelined by the Council for TRIPS during the run-up to the Cancun Ministerial. By the time the Cancun Ministerial came around, there was not even a mention of such a review. Part of the reason for this was that from Doha to Cancun, there was almost a single agenda of the Council for TRIPS, i.e., TRIPS and the public health issue, which became controversial at a later stage and overshadowed the discussion on other issues.

Discussion in the TRIPS Council on this issue continues, with a large number of countries and groups of countries making their submissions and taking part in the discussions. It is beyond the scope of this chapter to discuss these submissions in details.<sup>54</sup> However, some of the major ones are discussed below.

It is interesting to see that the proposals run like a continuum, from one extreme initial position to another. While one extreme position was that of the African Group, which stated that all patenting of living matter should be banned worldwide under TRIPS, and that

<sup>&</sup>lt;sup>53</sup> This means that the person or company who patents genetic resources should disclose the source from which genetic material was obtained. In the present circumstances, this is the best possible way to prevent bio-piracy.

<sup>&</sup>lt;sup>54</sup> See GRAIN (2003) for a summary of submissions, updated in June 2003. All the documents relating to this issue (IP/ C/W/356; IP/C/W/400/Rev.1; IP/C/W/403; IP/C/W/420; IP/C/W/423; IP/C/W/429Rev.1; IP/C/W/433; IP/C/W/438; IP/C/W/434; IP/C/W/442; IP/C/W/443; IP/C/W/441/Rev.1) can be downloaded from http://docsonline.wto.org.

any regime for plant varieties should protect the rights of farmers and local communities, another extreme position was that of the US, which proposed that no invention should be excluded from patenting, not even plants and animals. A study of the proposals submitted by the developing country groups for example, the African Group, India, Brazil, South Asian Association for Regional Cooperation (SAARC) and other South American countries contain the following common elements:

Amendment of Article 27.3 (b): Most proposals relate to amending the Article so as to incorporate a disclosure requirement on patent application and requiring evidence of benefit sharing as a condition for patent, in line with CBD as well as ITPGRFA. Some developing countries have also demanded that the prevention of anti-competitive practices that threaten food sovereignty of people in developing countries be made possible through such amendments.

*Clarification in the review process:* Most proposals highlight the need for the ongoing review to clarify the artificial distinction between biological and microbiological, organisms and processes or a clear clarification be made stating that provisions on patenting of micro organisms only apply to genetically modified micro-organisms.

*Plant variety protection:* Most developing countries have demanded the continuation of traditional farming practices including the right to save and exchange seeds and sell their harvests. They have also demanded that flexibilities to protect farmers' rights must be retained and members should have the freedom to choose their own *sui generis* option. Some of them have also made it clear that UPOV is not a suitable model, and certainly not the only reference to fulfil the 'effectiveness' criterion as provided for in Article 27.3 (b).

*Systemic issues:* Some developing countries have demanded that the transition period for complying with TRIPS be extended, and amendment to TRIPS be included as a 'single undertaking' under DDA.

A recent path breaking submission (IP/C/ W/442) made by eight developing countries (Bolivia, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, India, Peru and Thailand) dated 18 March 2005 could form the basis for further discussion at the TRIPS Council from the developing countries' perspective in days to come. This document goes much beyond the disclosure requirement and the requirement for evidence for prior informed consent circulated in the TRIPS Council as IP/C/W/429/Rev.1 and IP/C/ W/438, respectively. It proposes that patent application based on genetic resources or traditional knowledge should include evidence of benefit sharing with the country of origin, failing which processing of patent application should stop or the application itself should be withdrawn. As per the proposal, in case of failure to provide evidence is discovered after the granting of patent, it should be revoked, or the rights could be transferred wholly or in part and criminal and/or civil sanction can be applied.55

Some developed countries, mainly the US, Japan, Australia and one advanced developing country (Singapore) are of the view that basically there is no conflict between TRIPS and CBD. Therefore, there should not be further lowering of standards of patent protection. While the US and Singapore argue that TRIPS should not be used to enforce benefit sharing arrangements, US and Japan view that benefit-sharing should be achieved by contracts, not under TRIPS. In contrast to the above-mentioned proposals, the EU, Norway and Switzerland do not have particular objection to disclosure and benefit sharing requirements. However, the EU's

A recent pathbreaking submission (IP/C/ W/442) made by eight developing countries (Bolivia, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, India, Peru and Thailand) dated 18 March 2005 could form the basis for further discussion at the TRIPS Council from the developing countries' perspective in days to come.

<sup>&</sup>lt;sup>55</sup> See WTO (2005) The Relationship between the TRIPS Agreement and the Convention on Biological Diversity (CBD) and the Protection Of Traditional Knowledge – Elements of the Obligation to Disclose Evidence of Benefit-Sharing under the Relevant National Regime, Submission from Bolivia, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, India, Peru and Thailand, IP/C/W/442. Council for Trade Related Aspects of Intellectual Property Rights, 18 March, Geneva.

contention that such requirements should not be criteria for patentability and non-respect of which would lie outside the patent system is not only debatable, but also contested by some.<sup>56</sup>

In relation to PVP, while the US feels that a reference to UPOV 91 should be incorporated in TRIPS itself, Singapore opines that UPOV would be a useful reference. Japan also shares the similar view by stating that UPOV is not only an effective *sui generis* system, but is a balanced system. The EU and Switzerland have followed a more reasonable approach by stating that 'UPOV provides a model of effective *sui generis* system, but other models may be equally effective.' In a similar vein, Norway argues that there is no need for a formal and explicit reference to UPOV.

In parallel, discussions on these issues are taking place in other forums as well - one of them being WIPO, as discussed above. Discussions on other forums such as CBD Conference of Parties, and ITPGRFA under the auspices of FAO, are likely to build further momentum towards resolving these issues. Similarly, the United Nations Conference on Trade and Development (UNCTAD) too is now mandated to undertake analysis on these issues.<sup>57</sup> Provided a well coordinated strategy is adopted by the developing countries, the development objectives discussed above can be achieved. In this context, a portion of the New Delhi Ministerial Declaration of like Minded Mega-Diverse Countries, adopted in January 2005 (reproduced hereunder), is quite instructive:

"...to ensure that the international regime to be developed on access and benefit sharing, includes, *inter alia*, the following elements: prior informed consent of the country of origin; mutually agreed upon terms between the country of origin and user country; mandatory disclosure of the country of origin of biological material and associated traditional knowledge in the IPR application, along with an undertaking that the prevalent laws and practices of the country of origin have been respected, mandatory specific consequences in the event of failure to disclose the country of origin in the IPR application.'58

Along these lines, the Indian Commerce Minister Kamal Nath recently issued a letter to 31 commerce ministers of the WTO member-countries emphasising the need for an aggressive strategy on the issue of protecting biodiversity and traditional knowledge in the run-up to the Hong Kong Ministerial Conference of the WTO. He urged his counterparts to take a common position on this issue prior to the Hong Kong Ministerial Conference and have a similar declaration as TRIPS and Public Health Declaration issued during the ministerial. If developing countries in general and South Asian countries in particular can build momentum around this call by the Indian minister, they will be able to address majority of development implications outlined above.

### 6. EFFORTS AT THE NATIONAL LEVEL

Of the seven countries of South Asia, six are already WTO members and the seventh — Bhutan — is in the process of accession. All seven have signed and ratified CBD. While Nepal and Bangladesh, which have been provided a transition period upto 2006, are in the process of implementing commitments under TRIPS, all WTO members within the region have already implemented their commitments.<sup>59</sup>

<sup>&</sup>lt;sup>56</sup> See Dhar and Anuradha (2005), Reconciling TRIPS and CBD through Disclosure Requirement, Policy Brief, No. 1, 2005. SAWTEE: Kathmandu

 <sup>&</sup>lt;sup>57</sup> See UNCTAD (2004). Sao Paulo Consensus. Eleventh Session of UNCTAD, TD/L.380, 16 June, Sao Paulo. Para 101.
 <sup>58</sup> New Delhi Ministerial Declaration of Like Minded Megadiverse Countries on Access and Benefit Sharing, 21 January

<sup>2005.</sup> 

<sup>&</sup>lt;sup>59</sup> Except for one provision relating to product patent on pharmaceutical products, which may be implemented by LDCs like Bangladesh, Maldives and Nepal by 2016 by virtue of TRIPS and Public Health Declaration adopted by the Doha Ministerial Conference of the WTO.

In the meantime, recognising the threats posed by TRIPS, most of these countries are making conscious efforts to strike a balance between their obligations under TRIPS and CBD at the time of enacting/drafting their biodiversity, access and benefit-sharing and PVP legislation. They are making every possible effort to check bio-piracy, make the patent applicant comply with access and benefit-sharing and prior informed consent provisions contained in their laws, and ensure that farmers' rights are protected. While some countries are still under pressure from the corporate lobby, developed countries and UPOV at various levels not to incorporate any provision that will make the process of obtaining patent onerous, some others are determined to fulfil the twin objectives of conservation and sustainable use of biodiversity and protection of farmers' rights. In this section, we discuss briefly the examples of three South Asian countries, namely Bangladesh, India and Nepal.

### BANGLADESH

In Bangladesh, where the draft Biodiversity Act (draft Biodiversity and Community Knowledge Protection Act of 1998) as well as draft Plant Varieties Act is pending, the former prohibits all form of monopolisation of biological and genetic resources and related knowledge and culture.<sup>60</sup> It also makes an elaborate arrangement for access and benefitsharing and prior informed consent in Article 5.3 of the draft, as under:

'[d]eclares and reaffirms that the patenting of the life forms is against the moral, intellectual and cultural values of the people of Bangladesh. Accordingly, the access and use of biological and genetic resources will be guided by these values. Any privileges, protection and/or rewards, if ever extended to new innovations, will have to remain consistent with this particular provision of the Act.'

Though the draft legislation contains strict provision for access to genetic resources, it is silent on the requirement of disclosure of source of origin. However, Article 10 of draft Plant Varieties Act of Bangladesh, makes it clear that non-disclosure of source of origin of biological and genetic resources and related intellectual and cultural practices used in the innovation and invalid contract of benefit sharing are the grounds for the rejection of application for breeders' certificate. Article 12, dealing with procedures for application, states that the application must include the fair and equitable benefit-sharing contract with community or communities where applicable, and the approval of the contract by the National Biodiversity Authority.

### India

In India, more explicit provisions relating to disclosure requirement has been provided. Article 6.1 of India's Biological Diversity Act, 2002 prohibits IPR application based on 'any research or information on a biological resource obtained from India' without obtaining the previous approval of the National Biodiversity Authority before making such application. Similarly, as per the Patents (Amendment) Act of 2002, 'in certain defined circumstances a patent application should be completed by fulfilling the condition that it discloses the source and geographical origin of the biological material in the specification, when used in the invention' [Section 10(4) (d) (ii)].

Similarly, the Protection of Plant Varieties and Farmer's Rights Act of 2001 contains a provision on benefits sharing. Likewise, Section 39 of the Act is entirely devoted to farmers' rights. This legislation is hailed by the developing countries as the first attempt to strike a balance between rights of the breeders and farmers, which is worth emulating by other developing countries.

<sup>&</sup>lt;sup>60</sup> Hasan, Sayeda Rizwana and Taslima Islam (2005), Contradictory draft PVP laws: The case of Bangladesh. In Farmers' Rights, Vol. 1, No.1, July, Kathmandu: Framers' Rights Advocacy Network (FRANK).

### Nepal

Nepal is in the process of enacting the proposed Access to Genetic Resources and Benefit Sharing Bill to comply with its obligations under CBD. The draft Bill has made detailed arrangements to ensure regulated access to genetic resources as well as for fair and equitable benefit sharing. Sections 9 and 10 of the draft Bill mandate, among others, the disclosure of source of origin of the genetic resources while making application for the use of such resources.

As per section 19.8 of the draft Industrial Property Bill (2004), any patent applicant is required to disclose the source of the biological or genetic material and associated traditional knowledge used in the invention. Similarly, Plant Variety Protection and Farmers' Rights Bill (2004) is more or less modelled on Indian legislation as far as the farmers' rights are concerned.

# 7. CONCLUSION AND POLICY RECOMMENDATIONS

The conflict between two international legal instruments - TRIPS and CBD, to which almost all the South Asian countries are parties, has serious development implications for the region. While the benefits of TRIPS are not likely to accrue to these countries in the short and medium term, the costs are immediate. On the other hand, though the countries in the region could benefit tremendously from CBD, they do not have the required resources and capacity to harness the potential of the rich biodiversity and traditional knowledge. Therefore, they will have to probably depend on the resources and technology of the developed countries to obtain benefits from such resources and traditional knowledge.<sup>61</sup> It is also necessary for these countries to jealously guard these resources and traditional knowledge. However, their efforts alone

may not be sufficient to achieve the three principle objectives of CBD — conservation, sustainable use and benefit sharing.

As if the inclusion of TRIPS within the sanction-based mechanism of the WTO was not enough, developed countries are making every possible effort to: (a) ratchet up the standards for intellectual property protection globally through various multilateral, regional and bilateral platforms; (b) undermine the spirit of the CBD and ITPGRFA which are sympathetic to and supportive of developing countries' concerns; (c) strengthen the organisation like UPOV which is not only apathetic but also hostile to the genuine developmental concerns of South Asia.

Discussions at the TRIPS Council to address the conflicts between TRIPS and CBD are yet to move into the desired direction because of the entrenched positions between the developing member-countries and the developed ones. The differences need to be narrowed down in the coming months. Indeed, moderate positions taken by some of the developed countries like Norway and Switzerland could very well become the starting points for further negotiations. While some efforts at the national level are already underway in developing countries in general and South Asian countries in particular, to resolve these conflicts, international recognition will provide further legitimacy to these efforts.

It is necessary to take cognisance of the fact that lack of coordination among governments and trade officials at the national and international level could prove detrimental to the interests of South Asian countries. However, improved coordination coupled with the domestic reform agenda could help these countries minimise the harm caused by TRIPS and maximise the benefits from CBD and ITPGRFA. To this end, the following policy recommendations are worth taking note of namely:

<sup>&</sup>lt;sup>61</sup> It can also be argued that if the South is able to devote considerable resources to market their genetic resources and TK (including the ones in the semi-instituionalised form such as Ayuveda system of medicine found in South Asia), they may not have to depend on the North for utilising this wealth.

### NATIONAL LEVEL

- Policy coherence between various agencies of the government should be enhanced with a view to making a contribution to the overarching developmental objectives and ensuring better coordination while negotiating at the international platforms.
- The flexibilities contained in TRIPS should be utilised at the time of preparing laws relating to IPR, PVP, biodiversity or access and benefit-sharing and prior informed consent with a view to protecting and promoting the interests of farming and local and indigenous communities as well as developing and making sustainable use of genetic resources and associated traditional knowledge.
- Capacity-building and involvement of a wider range of stakeholders should be a *sina qua none* in the policy and law making processes.
- Since documentation and registration of genetic resources and associated traditional knowledge could be an useful instrument not only for understanding their economic value and making their best use to achieve the overall development objectives, but also to protect them from piracy, these processes should be completed without further delay.
- Contribution to public sector research in conservation and sustainable utilisation of genetic resources should be increased,

governments should provide fiscal incentives to facilitate the process of public private partnership in research and development.

### Regional and international level

- There should be a coordination mechanism at the SAARC level in order to build the capacity of concerned stakeholders through shared learning as well as prepare common positions at the different forums dealing with issues relating to IPR and biodiversity. Further, they should align their positions with other developing countries having similar interest on these issues and make a coherent intervention at various international forums.
- South Asian countries should support the call made by the Indian Commerce Minister and join hands with other developing countries during the ongoing negotiations at the TRIPS Council to ensure that TRIPS is amended to include a mandatory provision on disclosure of source of origin of genetic resources and/or associated traditional knowledge, evidence for prior informed consent and benefit sharing, with the Hong Kong Ministerial as the target date for achieving this objective.
- Any attempt from the developed countries to impose TRIPS plus standards through various multilateral, regional or bilateral platforms should be resisted.

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ANNEXURE 1

# **TRIPS-plus Provisions in Select RTAs/BTAs**

Developed country partner	Developing country partner	Chapter, Articles or Annexes referring to IPR	TRIPS-plus provisions	Remarks
EFTA	Jordan	Article 17, Annex 6	Must join UPOV by 01/01/2006	
EFTA	Lebanon	Article 24, Annex V	Must join TRIPS (Lebanon is not WTO member), and UPOV by 01/03/2008	
EFTA	Mexico	Article 69, Annex XXI	Must join UPOV by 01/01/2002	Already complied by becoming a Member of UPOV on 09/08/1997
EFTA	Morocco	Article 16, Annex V	Must join UPOV by 01/01/2000	
USA	Singapore	Article 16.1.2 (a)	Each party shall ratify or accede to the following agreements:	Already complied by becoming a Member of UPOV on 30/06/2004
			(ii) UPOV Convention.	······
		Article 16.7.1	Each Party may exclude inventions from patentability only as defined in Articles 27.2 and 27.3(a) of the TRIPS Agreement.	Singapore will not be allowed to exercise its rights under the exceptions contained in Article 27.3(b) of TRIPS
USA	Vietnam	Chapter II Article 1 (D)	[E]ach Party shall, at a minimum, give effect to this Chapter and the substantive economic provisions of:D. The UPOV 1978, or UPOV 1991;	
		Article 7.2	The exclusion for plant varieties is limited to those plant varieties that satisfy the definition provided in Article 1(vi) of the UPOV Convention (1991)	
FTAA (US, Canada)	32 developing countries (including one LDC)	Chapter XX Article 5.3 (f)	<ul> <li>[E]ach Party shall give effect to</li> <li>[, at a minimum,]the cited</li> <li>provisions of the following</li> <li>agreements:</li> <li>[f) [Articles 1 to 14 of UPOV 1978</li> <li>or Articles 1 to 22 of UPOV 1991</li> <li>depending on which is in force in</li> <li>each country];]</li> </ul>	TRIPS plus obligations contained in FTAA is apparently one of the major reasons for the countries not being able to agree to the FTA.
DR-CAFTA (USA)	Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua and Dominican Republic	Article 15.1. 5	Each party shall ratify or accede toUPOV 1991	

(Contd...)

(Contd.)

US	Chile	Article 17.1.3 (a)	Each party shall ratify or accede toUPOV 1991 by 2009	Chile has been a member of UPOV 1978 since 05/01/1996, but it needs to become a member of UPOV 1991 by 2009.
US	Jordan	Article 4.18	No exception to essentially biological process for production of plants and animals, as provided for in Article 27.3(b) of TRIPS.	
		Article 4.1(b)	Each Party shall, at a minimum, give effect to this Article [Article 4.1], including the following provisions:(b) Article 1 through 22 of UPOV 1991	Jordan joined the UPOV 1991 on 24/10/2004
US	Morocco	Article 15.1.2 (e)	Each party shall ratify or accede to the following agreements(e) UPOV 1991	
		Article 15.9 (2) (a) and (b)	Each Party shall make patents available for the following inventions: (a) plants, (b) animals	

Source: http://www.grain.org; Berne Declaration (2004)