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Review of the TRIPS Agreement: Fostering the Transfer of Technology to Developing Countries

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1 Introduction

As of 1 January 2000, all developing countries were bound by the provisions of the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[1] as the general transitional period for its application expired. A number of developing countries have introduced massive changes in their intellectual property rights (IPRs) systems in order to comply with the Agreement's requirements. Many of them, however, seem to be far from having completed the required reforms and may, therefore, be exposed to claims of non-compliance by other WTO Members.

Though not many years have elapsed since the general entry into force of the TRIPS Agreement, several proposals have already been submitted in order to review it. Some of these cover areas that belong to the "in-built agenda" (UNCTAD 1999), that is, issues relating to geographical indications (Article 23.4), the patentability of biological inventions (Article 27.3(b)) and "non-violation" cases (Article 64). There are, in addition, many proposals[2] that go beyond such limited review.

Despite the broad coverage of the TRIPS Agreement, patents, plant varieties and geographical indications are the only areas on which proposals have been made by developing countries, in the latter case with an aim of expanding protection.

Developed countries had prompted the negotiation of the TRIPS Agreement on the argument that expanded and strengthened protection of IPRs would bring about increased flows of foreign direct investment (FDI) and technology transfer to developing countries, and that changes

in IPRs would also stimulate local innovation. However, serious doubts about the extent to which such positive effects may take place have been raised[3].

Particular attention has been paid to the effects of the TRIPS Agreement on the transfer of technology. The North-South technological gap has continued to grow since the adoption of the Agreement. Fears that the enhanced protection given to IPRs will not effectively promote the development process but instead limit access to technology have been voiced by many developing countries.

Several leading scholars and institutions have found these concerns to be justified, and are calling for a fundamental rethink of the IPRs system from a North-South perspective. For Harvard economist Sachs (1999):

> "...the global regime on intellectual property rights requires a new look. The United States prevailed upon the world to toughen patent codes and cut down on intellectual piracy. But now transnational corporations and rich-country institutions are patenting everything from the human genome to rainforest biodiversity. The poor will be ripped off unless some sense and equity are introduced into this runaway process".

A similar view has been expressed by Prof. Barton (Stanford University), who has noted that:

> "the risk that intellectual property rights slow the movement of technological capability to developing nations, suggests that harmonization efforts might most wisely consider one common standard for developed nations and a different one for developing nations" (Barton 1999, p. 15).

The United Nations Development Programme's (UNDP) *Human Development Report 1999* has also stated that:

> "The relentless march of intellectual property rights needs to be stopped and questioned. Developments in the new technologies are running far ahead of the ethical, legal, regulatory and policy frameworks needed to govern their use. More understanding is needed — in every country — of the economic and social consequences of the TRIPS Agreement. Many people have started to question the relationship between knowledge ownership and innovation. Alternative approaches to innovation, based on sharing, open access and communal innovation, are flourishing, disproving the claim that innovation necessarily requires patents" (p.73).

Despite this and other criticism[4], developing countries seem to be cautiously approaching possible negotiations on IPRs. In general terms, their proposals aim at making the TRIPS Agreement more balanced between the task of promoting IPRs and promoting development objectives[5]. One of the important aims of these countries is to operationalize Articles 7 (Objectives) and 8 (Principles) of the Agreement[6].

On the developed countries' side, the proposals for negotiations relating to issues beyond the in-built agenda are rather modest. The United States and the European Union have focused on copyright. They proposed the absorption by the TRIPS Agreement of the World Intellectual Property Organization (WIPO) copyright treaties of 1996, that is, the WIPO Copyright Treaty and the WIPO Performance and Phonograms Treaty[7].

The WIPO Copyright Treaty reconfirms the pertinent provisions of the TRIPS Agreement on copyright. It also contains provisions particularly relevant to the use of works in a digital environment, like the "right of distribution" (Article 6)[8] and the "right of communication to the public", including when "members of the public may access these works from a place and at a time individually chosen by them" (Article 8). The WIPO Performance and Phonograms Treaty strengthens the protection available under the TRIPS Agreement standards, for instance, with regard to moral and rental rights of performers. It also improves the minimum

standards for phonogram producers (Reinbothe, Martin-Prat and von Lewinski 1997).

Japan also supports the proposal that the TRIPS Agreement "deal with higher protection of intellectual property rights which has been achieved in other treaties or conventions in other fora appropriately" (WT/GC/W/242), in an obvious reference to the WIPO copyright treaties[9].

The EU and Japan have also addressed the issue of the "first-to-file" vs. the "first-to-invent" systems for patent applications. The latter system, only practised in the United States, is claimed to burden inventors, particularly foreign applicants in the US, the great majority of whom are of Japanese and European origin. According to the EU, this issue was "left aside because of lack of consensus at the end of the Uruguay Round" (WT/GC/W/115). Japan also requests that the introduction of "an early publication system of filed patent applications" be considered.[10]

Japan is the only country to advocate a "further international harmonization" of IPRs systems, since "differences in fundamental rules for protection of intellectual property rights still exist, which remain as obstacles for trade and investment" (WT/GC/W/242).

This paper examines the background and objectives of the proposals made by developing countries with a view to reviewing the TRIPS Agreement. It also discusses issues related to the implementation of the Agreement and to the in-built agenda, and examines the proposals made relating to the interface between the TRIPS Agreement and the Convention on Biological Diversity (CBD) and for enhancing the transfer of technology to developing countries. The development of a comprehensive approach to address developing countries' concerns relating to transfer of technology, possibly including the review of various WTO agreements, is suggested.

2 Implementation Issues

Several developing countries have questioned certain aspects relating to the implementation of the TRIPS Agreement, namely the continuous use of unilateral pressures and the lack of actual implementation of Article 66.2 (incentives for the transfer of technology to least developed countries (LDCs)) and of Article 67 (technical assistance to developing countries).

With regard to unilateral pressures, the Dominican Republic and Honduras have stated that:

> "Ever since the end of the Uruguay Round, all countries, developed and developing alike, have been racing against time to ensure due compliance at the national level with the provisions of this Agreement. However, during the transition period granted to the developing countries, we have seen selective unilateral pressures unleashed against countries that have tried to exercise their legitimate rights in full compliance with the letter and spirit of the Agreement".

In fact, the continuous application of "Special 301" of the US Trade Act[11] has perturbed the implementation of TRIPS rules in many developing countries[12].

Many developing countries have stressed the difficulties that they have faced in putting into practice the massive legislative changes required by the TRIPS Agreement, and the little support received from developed countries. In this context, the issue of the implementation of Article 66.2 to the benefit of LDCs has been raised by Egypt (WT/GC/W/109), India (WT/GC/W/147) and the African Group, which noted that no concrete

steps have been demonstrated by developed countries with regard to the fulfillment of their obligations[13] under that article (WT/GC/W/302)[14]. Egypt also pointed out the need to review the implementation of Article 67 (WT/GC/W/136).

For countries like Cuba, the Dominican Republic, Egypt and Honduras, the transitional period of Article 65.2 (for developing countries to apply the provisions of the Agreement) has been insufficient for Member states to undertake the difficult and costly tasks related to the modernization of the administrative infrastructure (intellectual property offices and institutions, the judicial and customs systems), the drafting of new laws with substantive and procedural provisions for the protection of IPRs, and the strengthening of institutions and creation of a culture for the protection of such rights. They therefore requested an extension of the transition period for the developing countries (WT/GC/W/209).

The implementation issues raised by developed countries are quite different from those described above. The United States was eager to initiate the review of the implementation of the Agreement (Article 71.1) as soon as the transitional period of Article 65.2 was over (WT/GC/W/115). That country also expressed interest in addressing the in-built agenda, but seems reluctant to propose or support a revision of other aspects of the TRIPS Agreement.

The EU has pointed out that:

> "It should of course be kept in mind that the TRIPS acquis is a basis from which to seek further improvements in the protection of IPRs. There should therefore be no question, in future negotiations, of lowering of standards or granting of further transitional periods" (WT/GC/W/193).

A similar stand has been taken by Japan, for which:

> "first and foremost, every Member should ensure the full implementation of the TRIPS Agreement and effective operation of the domestic legislation ... We should not discuss the TRIPS Agreement with a view to reducing the current level of protection of intellectual property rights. To the contrary, the TRIPS Agreement should be improved properly in line with new technological development and social needs".

The implementation of "appropriate measures against counterfeiting" is a major concern for Japan (WT/GC/W/242).

3 The In-built Agenda

GEOGRAPHICAL INDICATIONS

Article 23.4 of the TRIPS Agreement obliges Members to undertake negotiations on the establishment of a multilateral system of notification and registration of geographical indications for wines.

The EU has proposed an international registration of geographical indications according to which registered indications would be automatically protected in the participating Member countries, subject to a procedure for dealing with oppositions from each Member which considers that a geographical indication is not eligible for protection in its territory. On the other hand, the United States and Japan envisage the development of an international database of geographical indications to which Members would be expected to have reference in the operation of their national systems. Each approach has support from some other Members (Otten 1999, p.7).

The other area of work on geographical indications is the review (under Article 24.2) of the application of the provisions in the Section of the TRIPS Agreement on geographical indications. In this context and also in the context of the preparations for a proposed new round of multilateral trade negotiations, proposals have been made for the expansion of the product areas that must benefit from the higher level of protection (presently only required under the TRIPS Agreement for wines and spirits) to other agricultural and handicraft products, for example, rice, tea, beer, etc. (Vandoren 1999, p. 30).

Several developing countries have indicated interest in "TRIPS-plus" protection in the field of geographical indications. For instance, Egypt has proposed that the additional protection conferred on geographical indications for wines and spirits (Article 23.1) be extended to other products, particularly those of interest to developing countries (WT/GC/W/136).

The Indian delegation further elaborated on this issue. It argued that:

> "It is an anomaly that the higher level of protection is available only for wines and spirits. It is proposed that such higher level of protection should be available for goods other than wines and spirits also. This would be helpful for products of export interest like basmati rice, Darjeeling tea, alphonso mangoes, Kohlapuri slippers in the case of India. It is India's belief that there are other Members of the WTO who would be interested in higher level of protection to products of export interest to them like Bulgarian yoghurt, Czech Pilsen beer, many agricultural products of the European Union, Hungarian Szatmar plums and so on. There is a need to expedite work already initiated in the TRIPS Council in this regard, under Article 24, so that benefits arising out of the TRIPS Agreement in this area are spread out wider" (WT/GC/W/147).

Turkey (WT/GC/W/249) and the Czech Republic have also joined the demand for additional protection for specific foodstuffs and handicraft products and, particularly in the case of the latter, "for beers which are particularly vulnerable to imitation, counterfeit and usurpation and whose protection of such indications against consumer deception is insufficient and trademark protection is not satisfactory due to its formal requirements such as registration and the use requirement" (WT/GC/W/206).

The proposals relating to the expansion of the product areas covered by additional protection have been supported by a number of developing countries: Cuba, the Dominican Republic, Honduras, Indonesia, Nicaragua and Pakistan (WT/GC/W/208), the African Group (WT/GC/W/302) and Venezuela (WT/GC/W/282).

In the area of geographical indications, in sum, some developing countries are pursuing a "TRIPS-plus" revision[15]. If adopted and not subject to special and differential treatment, extended additional protection may favour any country where the requirements for protection of such indications may be met by products other than wines and spirits.

NON-VIOLATION

Article 64.1 of the TRIPS Agreement provides for a non-violation nullification or impairment remedy under the Agreement. [A non-violation case is said to occur when a Member country applies a measure which, while not in conflict with WTO disciplines, nevertheless causes the nullification or impairment of benefits accruing to another Member.] Paragraph 2 of Article 64, however, stipulates that the non-violation remedy "shall not apply to the settlement of disputes under this Agreement for a period of five years from the date of entry into force of the WTO Agreement." The purpose of this moratorium was to enable the WTO Council for TRIPS to examine the scope and modalities for non-violation complaints in the context of TRIPS and make recommendations to the WTO Ministerial Conference (Article 64.3). A decision was to have been taken — by consensus — by the end of 1999 on whether to extend this moratorium period or to determine the disciplines to be applied.

Some countries have indicated the need for an extension of this transitional period. According to Egypt:

> "Due to the fact that developing countries are enjoying transitional periods, they will be unable to assess the possible advantages and

> disadvantages of the non-application of non-violation provisions in the TRIPS Agreement. Therefore, during this period, the TRIPS Council should examine the scope of and modalities for such complaints with a view to considering an extension of the period stated in the Agreement. This will allow an accurate judgment on this issue and the submission of recommendations to the Ministerial Conference in this respect".

For Venezuela, the moratorium should be extended given the fact that the Council for TRIPS has not yet been able to define either the scope or the modalities for non-violation complaints, as required by Article 64.3. Moreover:

> "the history of the GATT and the WTO has produced very few precedents relating to proceedings of this type which would enable them to be conducted safely in terms of law. At the same time, we consider that there is a total lack of experience concerning how inter-State non-violation complaints could be applied to intellectual property rights, which are essentially private in nature" (WT/GC/W/282).

The African Group has suggested an "indefinite" moratorium for the application of Article 64 (WT/GC/W/302). Canada has proposed[16] to extend the moratorium until the work of the Council for TRIPS as mandated under Article 64.3 is completed. Canada has argued that:

> "there has been no substantive discussion on scope and modalities by the Council for TRIPS as required under paragraph 3 of Article 64 ... The non-violation remedy was developed in a context wholly different from TRIPS as a means of ensuring market access. In Canada's view, transplanting this remedy into the TRIPS environment is not suitable in the context of IP [intellectual property] and will introduce uncertainty into the Agreement, constraining Members' abilities to introduce new and perhaps vital measures such as

those related to social, economic development, health and environmental objectives" (WT/GC/W/256).

In fact, IPRs are generally defined in a precise manner since they imply the stipulation of a right to prohibit third parties from using, producing or commercializing certain goods. Non-violation would open a window for challenging on discretionary grounds national IPRs regulations (South Centre 1998, p.26) and domestic policies in different areas, such as price controls and regulations on royalty remittances. Hence, the application of the non-violation clause may create a grey area and provide a basis for questioning national policies beyond the scope of IPRs.

It should be noted that according to Article 19.2 of the WTO's Dispute Settlement Understanding, the WTO adjudication process "cannot add to or diminish the rights and obligations provided in the covered agreements", and that in the US-India dispute on Article 70.9 of the TRIPS Agreement[17], the Appellate Body rejected the "legitimate expectations" test derived from GATT jurisprudence on non-violation acts, thereby confirming that the developing countries are free to adopt their own laws and policies with respect to all intellectual property issues that were not expressly harmonized in the TRIPS standards themselves (Reichman 1998, p. 597). According to this author:

> "Especially ominous is the inclination in some quarters to lift the moratorium on non-violatory complaints of nullification and impairment under Article 64. This would further encourage the coalition of intellectual property owners to press for maximalist interpretation of existing norms, including their own views of the grey areas, the 'wiggle room' areas, on which there is much disagreement" (Reichman 1999, p. 12).

India has suggested that Article 64.2 be modified so as to make it clear that subparagraphs 1(b) and 1(c) of Article XXIII of GATT 1994 (which cover

the non-violation remedy) shall not apply to the TRIPS Agreement (WT/GC/W/225).

BIOLOGICAL INVENTIONS

Article 27.3(b) is the only provision in the TRIPS Agreement subject to an early review, in 1999. So far, however, there has been no agreement in the Council for TRIPS on the meaning of "review". Developed countries have held that it is a "review of implementation" which is called for, while for developing countries a "review" should open the possibility of revising the provision itself.

Several proposals have been made, particularly by IPRs-concerned NGOs[18], for the revision of Article 27.3(b), for instance, in order to ensure that naturally occurring materials are not patentable, and to recognize some form of protection for the "traditional knowledge" of local and indigenous communities.

The aim of some developed countries, if a revision takes place, would be to eliminate the exception from patentability for plants and animals, and to establish that plant varieties should be protected in accordance with the UPOV Convention as revised in 1991. Thus, according to the United States:

> "The TRIPS Council will initiate work on this item in 1999, to consider whether it is desirable to modify the TRIPS Agreement by eliminating the exclusion from patentability of plants and animals and incorporating key provisions of the UPOV agreement regarding plant variety protection" (WT/GC/W/115).

The outcome of a possible revision of this article is unclear. For some developing countries, it would be important to maintain the patentability exception for plants and animals, as well as the flexibility to develop *sui*

generis regimes on plant variety protection which are suited to the seed supply systems of the countries concerned. Thus, Egypt has stated that:

> "Patentable subject matter was one of the most difficult issues in the negotiations of intellectual property rights issues during the Uruguay Round negotiations. One of the main difficulties was that intellectual property protection in this area of living matter is still in its early years of development. The TRIPS Agreement calls for a review of this matter four years after the date of entry into force of the WTO Agreement (Article 27.3-b). We believe that this matter remains a sensitive and controversial issue. While it may be useful to consider the new developments in this area, the *status quo* should not be altered at this stage".

The African Group has made the most elaborate proposal on this matter. It considers that the "review" mandated by Article 27.3(b) relates to the substance, and not merely the "implementation", of the provision. It also holds that the implementation deadline should be extended to five years after the completion of the substantive review of Article 27.3(b), in order to allow developing countries to set up the necessary infrastructure required by the implementation.

The African Group has held that:

> "There is lack of clarity on the criteria/rationale used to decide what can and cannot be excluded from patentability in Article 27.3(b). This relates to the artificial distinction made between plants and animals (which may be excluded) and micro-organisms (which may not be excluded); and also between 'essentially biological' processes for making plants and animals (which may be excluded) and micro-biological processes.
>
> "By stipulating compulsory patenting of micro-organisms (which are natural living things) and microbiological processes (which are

natural processes), the provisions of Article 27.3 contravene the basic tenets on which patent laws are based: that substances and processes that exist in nature are a discovery and not an invention and thus are not patentable. Moreover, by giving Members the option whether or not to exclude the patentability of plants and animals, Article 27.3(b) allows for life forms to be patented."

Based on these and other considerations, the African Group has proposed that the review process clarify that plants and animals as well as micro-organisms and all other living organisms and their parts cannot be patented, and that natural processes that produce plants, animals and other living organisms should also not be patentable. It has also suggested the incorporation, after the sentence on plant variety protection in Article 27.3(b), of a footnote stating that any *sui generis* law for plant variety protection can provide for:

"(i) the protection of the innovations of indigenous and local farming communities in developing countries, consistent with the Convention on Biological Diversity and the International Undertaking on Plant Genetic Resources;

(ii) the continuation of the traditional farming practices including the right to save, exchange and save seeds, and sell their harvest;

(iii) preventing anti-competitive rights or practices which will threaten food sovereignty of people in developing countries, as is permitted by Article 31 of the TRIPS Agreement" (WT/GC/W/302).

As indicated by the African Group and by the submissions of other developing countries, a possible review of Article 27.3(b) is regarded as linked to the harmonization of the TRIPS Agreement with the CBD and the FAO International Undertaking (see below).

The review of Article 27.3(b) is likely to be one of the more sensitive and controversial issues in the whole Agreement. The contrast between the various proposals of Members is more acute here than on any other matter. The proposals range from excluding patentability as such for life forms to ensuring the patent protection of any biological material, including plants and animals.

In addition, while developing countries seem to favour the maintenance of flexibility to develop a *sui generis* regime on plant variety protection, the United States and the EU have proposed the substitution of such a general concept by a specific obligation to comply with UPOV 1991[19].

In a possible substantive review of Article 27.3(b), it will be important for developing countries to preserve the right of any Member country to exclude from patentability plants and animals and to develop a *sui generis* regime for the protection of plant varieties. They may also aim at clarifying that naturally occurring substances, including genes, shall remain outside the scope of any IPRs protection.

4 TRIPS-CBD Interface

Several proposals aimed at developing the interface between the TRIPS Agreement and the Convention on Biological Diversity have been made. In some cases, these proposals overlap with those made for the review of Article 27.3(b). The African Group has indicated, in particular, that the said article should be harmonized with the CBD[20], the objective of which is "to protect the rights of indigenous people and local farming communities and to protect and promote biological diversity". The proposal of the African Group is, so far, the only one to demand that such harmonization also be made with regard to the FAO International Undertaking on Plant Genetic Resources, which "seeks to protect and promote farmers' rights and to conserve plant genetic resources". The Group argues that "by mandating or enabling the patenting of seeds, plants and genetic and biological materials, Article 27.3(b) is likely to lead to appropriation of the knowledge and resources of indigenous and local communities" (WT/GC/W/202).

India has noted that while the TRIPS Agreement obliges Members to provide product patents for micro-organisms and for non-biological and microbiological processes, and to provide for the protection of plant varieties, the CBD "categorically reaffirms that nation states have sovereign rights over their own biological resources, recognizes the desirability of sharing equitably the benefits arising from the use of these resources as well as traditional knowledge, innovations and practices relevant to the conservation of biological diversity and its sustainable use, and acknowledges that special provisions are required to meet the needs of developing countries".

In order to reconcile any contradictions, India suggested that the innovators share with holders of traditional knowledge the benefits arising from its exploitation, through "material transfer agreements/transfer of information agreements":

> "A material transfer agreement would be necessary where the inventor wishes to use the biological material and a transfer of information agreement would be necessary where the inventor bases himself on indigenous or traditional knowledge. Such an obligation could be incorporated through inclusion of provisions in Article 29 of the TRIPS Agreement requiring a clear mention of the biological source material and the country of origin ... This part of the patent application should be open to full public scrutiny on filing of the application. This would permit countries with possible opposition claims to examine the application and state their claims well in time. At the same time domestic laws on biodiversity could ensure that the prior informed consent of the country of origin and the knowledge holder of the biological raw material meant for usage in a patentable invention would enable the signing of material transfer agreements or transfer of information agreements, as the case may be. Such a provision in the domestic law should be considered compatible with the TRIPS Agreement. The suggestion basically asks for further transparency in the form of additional information in patent applications, and an approach which allows a harmonious construction of the two international agreements" (WT/GC/W/147).

For the purposes of achieving a harmonization of the TRIPS Agreement with the CBD, India has concretely proposed to incorporate a provision establishing that patents inconsistent with Article 15[21] of the CBD must not be granted (WT/GC/W/225).

This proposal may be expanded to cover other IPRs, such as breeders' rights. It may also be useful to specify the novelty requirement in a

manner that excludes the protection of any subject matter which had been made available to the public by means of a written description, by use or in any other way in any country[22] before the date of filing, including use by local and indigenous communities, or by deposit of a material in a germplasm bank or other deposit institutions where the said material is publicly available.

The harmonization of the TRIPS Agreement with the CBD[23], including through the review of Article 27.3(b), may provide the basis, according to some of the aforementioned proposals, for developing rules for the protection of traditional knowledge[24].

The approaches followed in the different proposals on traditional knowledge differ significantly. India's concern seems to focus on avoiding the misappropriation of traditional knowledge and on the implementation of the sharing-of-benefits principle. The African Group seems to aim at preserving the room existing at the national level to legislate on the matter[25], while Venezuela[26] proposes binding international rules on the matter. It has suggested the establishment, "on a mandatory basis within the TRIPS Agreement", of "a system for the protection of intellectual property, with an ethical and economic content, applicable to the traditional knowledge of local and indigenous communities, together with recognition of the need to define the rights of collective holders" (WT/GC/W/282).

However, given the considerable debate still surrounding this issue at the national level, it does not seem feasible to expect to rapidly reach an international consensus on the objectives, scope and content of the rights to be recognized in relation to traditional knowledge[27].

A possible approach may be to aim at the development of a misappropriation regime, that is, of a system which is not based — like in the case of trade secrets — on the granting of an exclusive right (i.e., on a *ius prohibendi*). Protection may only ensure the right to prevent the acquisi-

tion or use of traditional knowledge acquired in a manner contrary to legitimate rules and practices on access. This right, therefore, should not allow any third party (or another community) to be prevented from using the protected knowledge if independently developed or otherwise legitimately obtained.

5 Transfer of Technology

Several developing countries have voiced their concerns in relation to access to technology, which they feel is growingly difficult to obtain from commercial sources.

Such concerns are justified: while developing countries have been required to expand and enhance their intellectual property regimes, very little is contained in the WTO agreements that effectively facilitates and promotes access to technology. The distribution of the capabilities to generate science and technology gives rise, in fact, to the most dramatic North-South asymmetry. According to Reichman:

> "there is a growing perception that the benefits of higher intellectual property protection may be very unevenly distributed, at least in the short and medium terms, even though all developing countries must bear its transactions costs" (Reichman 1999, p. 9).

World research and development (R&D) expenditures are very asymmetrically distributed: developing countries, on the most recent estimates, only account for about 4 per cent of global R&D expenditures (UNDP 1999). These expenditures are growingly concentrated in a few countries and firms, and though the apparent "globalization" of R&D activities has created some expectations as to the transfer of R&D capabilities to developing countries, decentralization of R&D is only or mainly taking place in other developed countries.

In addition, large firms of developed countries have been able to develop a complex network of cooperation in technology through "strategic

alliances", which further enhance their dominant role in technology generation and use.

As developing countries attain higher levels of technological development, they have a more sophisticated demand for technologies which have not yet reached the "maturity" stage. Unlike mature technologies, which are relatively easy to acquire, technology which is still changing and profitable is increasingly more difficult to obtain.

A decline in the importance of contractual or non-equity modes of technology transfer has been observed in several studies (Kumar 1997). Internalized forms of technology transfer (i.e., those taking place intra-firm) are more likely to be preferred by technology holders when the technology is changing rapidly and when potential recipients may pose competitive threats in world markets as future competitors (Lall 1992, pp.4-6; UN/TCMD 1992, pp. 154-155).

Some of these problems were reflected in submissions made by developing countries in the preparatory process for the 1999 WTO Ministerial Conference in Seattle. These proposals are described below, followed by an analysis of possible work to be undertaken within and outside the framework of the TRIPS Agreement.

PROPOSALS

In the most elaborate submission on this matter (WT/GC/W/147), India[28] has noted the relative decline in arm's-length licensing of technology and the preference of technology suppliers for internalized forms of transfer. It has stated that:

> "One of the important objectives of the WTO Agreement, as mentioned in its preamble, is the need for positive efforts designed to ensure that developing countries secure a share in the growth in international trade commensurate with the needs of their economic

development. However, the TRIPS Agreement in its current form might tempt IPR holders to charge exorbitant and commercially unviable prices for transfer or dissemination of technologies held through such IPRs. It is important, therefore, to build disciplines for effective transfer of technology at fair and reasonable costs to developing countries so as to harmonize the objectives of the WTO Agreement and the TRIPS Agreement."

India has also made a detailed proposal to the WTO Committee on Trade and Environment[29] in relation to the transfer of environmentally sound technologies, so as to ensure that such technologies are made available at fair and most favourable terms and conditions upon demand to any interested party which has an obligation to adopt these under the national law of another country or under international law. India has suggested that an obligation is cast upon the WTO to bring about easy access to and wide dissemination of technology relevant for sustainable development, and has suggested examination of Article 31 of the TRIPS Agreement relating to compulsory licences and Article 33 relating to the duration of patent rights.

India has, more generally, noted the difficulties faced by developing countries in getting access to foreign technology, and has indicated the need to address that issue under several provisions of the TRIPS Agreement, such as Articles 7, 8, 30, 31, 40, 66.2 and 67. It has argued that:

"prospective technology seekers in developing countries face serious difficulties in their commercial dealings with technology holders in the developed countries. These difficulties are basically of three kinds: those which arise from the imperfections of the market for technology; those attributable to the relative lack of experience and skill of enterprises and institutions in developing countries in concluding adequate legal arrangements for the acquisition of technology; and those government practices, both legislative and administrative, in both developed and developing countries, which

influence the implementation of national policies and procedures designed to encourage the flow of technology to, and its acquisition by, developing countries ... In addition, the transfer and dissemination needs of the developing countries have to be seen from the point of view of the capacity of those in need of accessing technologies, particularly where the cost of technology may be prohibitive due to economies of scale and other reasons. In such cases, in order to implement the related provisions of the TRIPS Agreement, commercially viable mechanisms need to be found.

"The high cost of technology makes it difficult for the smaller, poorer developing countries to acquire appropriate technology on commercial terms. Such countries may be able to acquire appropriate technology critically needed for their development only through government-to-government negotiations and with the financial assistance provided by government and other institutions in developed countries or intergovernmental organizations. For those enterprises and institutions in developing countries, which will not have the benefit of external financing, the acquisition of appropriate technology on international commercial terms will impose a burden on the local economy unless the price of the technology can be brought within manageable limits.

"The denial of dual-use technologies, even on a commercial basis, to developing countries is another aspect that leads to widening of the technology gap between developed and developing countries. Under this guise a variety of technologies and products are being denied to developing countries which could otherwise have helped to accelerate their growth process. This issue needs to be carefully examined and seriously dealt with as a trade distorting and restrictive measure".

In sum, India has proposed that:

> "the TRIPS Agreement may be reviewed to consider ways and means to operationalize the objective and principles in respect of transfer and dissemination of technology to developing countries, particularly the least developed amongst them".

DEVELOPING TRIPS PROVISIONS

The Indian proposals may be further developed in order to effectively operationalize the specific objectives of the TRIPS Agreement in terms of the "transfer and dissemination of technology" (Article 7). As examined elsewhere[30], the TRIPS Agreement leaves WTO Members certain room to adapt national legislation to their particular needs and policy objectives. In implementing the Agreement, therefore, it is important to take into consideration those aspects that may promote technology transfer and development. The following aspects may be considered along those lines.

a) Patents

In the patent field, Member countries have flexibility to decide on aspects such as:

- the provision of an exception for experimental use, including for commercial purposes, of an invention;
- the establishment of compulsory licences on various grounds;
- the admissibility of improvement patents;
- the protection of "minor" innovations through utility models; and
- the definition of the scope of claims and of non-literal infringement (Correa 1998).

Legislation on these aspects may be adopted in the context of the existing rules of the TRIPS Agreement. However, the impact of some of these provisions on technology development and transfer may be enhanced with some changes in the current text. For instance, an explicit recognition of "refusal to deal"[31] as a ground for compulsory licensing may be included. Article 31(g) may also be revised, since the obligation to terminate a compulsory licence when the reasons that justified its granting have ceased to exist, if literally applied, may constitute a strong disincentive to requesting a compulsory licence and may in fact undermine the whole compulsory licensing system.

b) Restrictive business practices

Article 40 of the TRIPS Agreement permits the application of competition rules to restrictive business practices in voluntary licensing agreements[32]. Some examples of restrictive business practices are given (exclusive grant-back conditions, conditions preventing challenges to validity and coercive package licensing). One of the purposes of Article 40 was to restrict the possible ways in which Member countries may control restrictive business practices and, in particular, to prevent developing countries from applying a "development test" to judge such practices, as proposed during the unsuccessful negotiations on an International Code of Conduct on Transfer of Technology.

The said article also provides for a "positive comity", that is, the obligation of a Member to consider requests for consultations by another Member relating to such practices. The Member to which a request has been addressed has, however, the "full freedom of an ultimate decision" on the action to be taken.

Future negotiations in this area may aim at clarifying and expanding the rules relating to restrictive business practices in licensing agreements. It should be borne in mind that despite the failure of the initiative to

establish an International Code of Conduct on Transfer of Technology[33], in December 1980 the UN General Assembly adopted by Resolution 35/63 a "Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices".

The Set is applicable to all transactions in goods and services and to all enterprises (but not to intergovernmental agreements). It deals with horizontal restraints (such as price-fixing agreements, collusive tendering, and market or customer allocation agreements), and with the abuse of dominant position or market power through practices such as discriminatory pricing, mergers, joint ventures and other acquisitions of control (Section D, paragraphs 3 and 4).

Developing countries actively promoted — in the Review Conference convened in 1985 — the upgrading of the Set to a binding instrument and of the Intergovernmental Group of Experts on Restrictive Business Practices (the institutional machinery for the Set) to a "committee". These initiatives failed, and the developed countries repeatedly (at the five-yearly review conferences) turned back the efforts by developing countries to make the code a binding international legal instrument.

c) Transfer of technology to LDCs

According to Article 66.2 of the TRIPS Agreement, developed Member countries are obliged to provide incentives under their legislation to enterprises and institutions in their territories for the purpose of promoting and encouraging the transfer of technology to LDCs "in order to enable them to create a sound and viable technological base".

At its meeting of September 1998, the Council for TRIPS agreed to put on the agenda the question of the review of the implementation of Article 66.2 and to circulate a questionnaire on the matter in an informal document of the Council.

Future negotiations on this provision may aim at specifying the obligations of developed countries under Article 66.2, for instance, in respect of the transfer of environmentally sound technologies and other "horizontal" technologies that may contribute to the development of a solid and viable technological base, such as technology for quality control and good manufacturing practices. LDCs may also aim at reviewing other WTO agreements such as the Agreement on Subsidies and Countervailing Measures in a manner that facilitates compliance with Article 66.2 (see below).

d) Technical assistance

The supply of technical and financial cooperation for developing and least developed countries is mentioned in Article 67 of the TRIPS Agreement, but no specific obligations or operative mechanisms are provided for. The provision of the assistance is on request and subject to "mutually agreed terms and conditions".

Such cooperation shall include assistance in the preparation of laws and regulations on the protection of IPRs as well as on the prevention of their abuse, and the establishment or reinforcement of domestic offices, including the training of personnel. The Council for TRIPS has on many occasions reviewed information on assistance provided to developing and least developed countries, including by intergovernmental organizations.

Future negotiations in the framework of the TRIPS Agreement may aim at further specifying the obligations under this article.

e) Environmentally sound technologies

A topic of particular importance, as mentioned above, is the impact of the WTO rules on the transfer of environmentally sound technology (EST). Chapter 34 of Agenda 21[34] recognizes the need for favourable access to

and transfer of EST, in particular to developing countries, including on concessional and preferential terms. That Chapter also incorporates a detailed provision on action to be undertaken to support and promote the access to and use of EST.

Despite the clear justification and purposes of these provisions, little has been done to implement them. Moreover, the strengthening of IPRs in accordance with the TRIPS Agreement has reinforced the power of private parties to control the use and eventual transfer of ESTs. The Agreement has set high standards of protection for patents and "undisclosed information" whereunder title-holders may retain their technologies or charge high royalties for allowing access to them.

Under multilateral environment agreements (MEAs), obligations have been adopted in order to phase out the use of certain substances or technologies. Despite some measures to support developing countries in that process, technologies remain under the power of patent holders.

Similarly, there are standards adopted at the national level that ban imports if these do not comply with certain environmental requirements. Here, again, the lack of access to alternative ESTs poses an additional barrier to exports from developing countries.

A good example is provided by the case of a substitute to chlorofluorocarbons (CFCs). India has experienced difficulties in getting access to technology for HFC 134 A, which is considered the best available replacement for certain CFCs. That technology is covered by patents and trade secrets, and the companies that possess them are unwilling to transfer it without majority control over the ownership of the Indian company concerned.

Access of foreigners to technologies developed with public support is limited in some countries, such as in the United States[35]. According to US law, exclusive licences cannot be granted unless the licensee agrees that

any product embodying the invention or produced through the use of the invention will be substantially manufactured in the United States. In addition, the guidelines on university technology transfer developed by the Council on Governmental Relations provide that universities should be "extremely cautious in considering foreign licensees, especially if the research was funded by the United States Government"[36].

As recommended by Agenda 21, compulsory licences grounded on protection of the environment may be specified in national legislation. These measures, however, may be insufficient to ensure the transfer of EST as needed by developing countries. In line with the referred proposals made by India at the WTO Committee on Trade and Environment, the TRIPS Agreement may require changes in order to actually promote the transfer and use of ESTs.

BEYOND TRIPS

Despite possible changes in the TRIPS Agreement to favour the transfer of technology, the IPRs framework is too limited to address the complex issues involved in the technology transfer process, including the creation of a local infrastructure able to absorb the transferred technologies. Technology transfer policy should aim at the absorption of foreign technologies and the buildup of local capabilities. Technology transfer alone would be insufficient to develop a viable technological infrastructure (UNCTAD 1993).

Given the nature and complexity of the process of acquiring and absorbing technology, developing countries' concerns may need to be addressed in the framework of several WTO agreements, not only the TRIPS Agreement. It is necessary to bear in mind, in any case, that the WTO agreements deal with practices by governments, while technology (except if in the public domain) is under the possession or the property rights of private or public entities[37]. Though some WTO agreements may be improved or supplemented, they provide a narrow framework to com-

prehensively deal with the complex issues at stake in the area of technology transfer.

Despite this, there is some room to reflect in such agreements the needs of developing countries in terms of technology transfer. In the context of a systematic approach on development and transfer-of-technology issues, the following WTO agreements — in addition to the TRIPS Agreement — may be considered.

a) Agreement on Trade-Related Investment Measures (TRIMs)

The TRIMs Agreement only applies to trade-related investment measures. It does not prevent any Member from establishing performance requirements in relation to, for instance, transfer of technology and local R&D.

However, in the draft Multilateral Agreement on Investment (MAI) negotiated within the Organization for Economic Cooperation and Development (OECD), it had been proposed to prohibit performance requirements relating to:

- "transfer of technology, a production process or other proprietary knowledge to local persons or enterprises, unless this is enforced by a court or competition authority to remedy violation of competition laws, or this concerns the transfer of intellectual property and is undertaken in a manner consistent with the TRIPS Agreement"; and

- the achievement of a certain level or value of R&D in its territory.

Such requirements would be permitted, however, if linked to an "advantage", that is, some type of incentive.

In a possible review of the TRIMs Agreement, the unconditional right to apply these types of performance requirements should be retained[38].

b) Agreement on Subsidies and Countervailing Measures

The SCM Agreement considers as "non-actionable" "assistance for research activities" up to 75% of the costs of industrial research and up to 50% of "pre-competitive development activity" (Article 8.2(a)). Developed countries have, with this provision, created a "safe harbour" for a substantial part of the activities on which the competitive strength of their firms relies. While this provision may certainly benefit R&D in developing countries, it would not allow exemption for assistance for the acquisition of technology, which is essential for developing countries. Such an exemption may be considered in the framework of special and differential treatment for developing countries.

The admissibility of subsidies conferred in developed countries in relation to transfer of technology (including equipment) to developing countries may also be considered, particularly in order to implement Article 66.2 of the TRIPS Agreement.

c) General Agreement on Trade in Services (GATS)

Article IV.1(a) of GATS provides that the increasing participation of developing countries in world trade shall be facilitated through negotiated specific commitments by Members relating to the strengthening of their domestic services capacity and its efficiency and competitiveness, *inter alia*, "through access to technology on a commercial basis". Article IV.2 obliges developed countries to establish "contact points" to facilitate access to information, including on the availability of services technology.

In establishing the negotiating guidelines and procedures for future rounds of negotiations on trade in services (Article XIX.3), due attention should be paid to Article IV.1 in order to make it operative.

It should be noted that the GATS Annex on Telecommunications also contains, under Article 6 ("Technical Cooperation"), obligations to assist developing countries in their access to information, and LDCs in the transfer of technology.

d) TBT and SPS Agreements

Technical assistance, including to producers that wish to have access to systems for conformity assessment, is contemplated in Article 11 of the Agreement on Technical Barriers to Trade (TBT). Besides, the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) stipulates the provision of technical assistance, especially to developing countries, such as in the area of processing technologies and research (Article 9.1). The operationalization of these provisions may also be considered in future negotiations.

6 Main Conclusions

Technology plays a growing role in the creation of competitive advantages and in any development strategy. However, the generation of technology is overwhelmingly concentrated in developed countries and the technology is largely privately held.

Developing countries reluctantly assented to entering into negotiations for an agreement on IPRs during the Uruguay Round of multilateral trade talks (which resulted in the establishment of the WTO). Their concerns, particularly with respect to access to technologies necessary for development, were dismissed at that time. The proponents of an international agreement on IPRs anticipated benefits for such countries in terms of increased flows of capital and technology, flows which do not seem to have materialized.

The strengthening and expansion of IPRs have reinforced the technology owners' capacity to control the use of their intangible assets, including in deciding on whether or not to transfer them to third parties. Foreign parties' access to technologies developed with public funding may also be limited.

Developing countries seem to be cautiously approaching possible negotiations on the TRIPS Agreement. While they seem more eager to review the Agreement than the developed countries, the developing countries' proposals generally aim at balancing the Agreement rather than at questioning its basic foundations, except (as in the case of the African Group) in respect of the patentability of living matter.

Any future action within the WTO concerning technology transfer should recognize the strong linkages existing between the transfer and local technological capacity-building, which remains a main responsibility of host countries. The improvement of the conditions for access to and effective use of foreign technologies will thus require a broad approach that extends beyond the TRIPS Agreement.

Developing countries seem to be better prepared for future negotiations on IPRs than they were on the occasion of the TRIPS negotiations during the Uruguay Round. IPRs issues, which for the most part were new and generally unknown to trade negotiators of developing countries during the Round, have now become an important part of their concerns and negotiating strategies.

ENDNOTES

1. With the exception of obligations on the patentability of certain products, as allowed by Article 65.4 of the Agreement. Least developed countries (LDCs) can delay the implementation of the Agreement until year 2006.
2. Submissions presented as of 30 July 1999 are considered here.
3. See Correa (2000).
4. For Abbott (1998, p. 520), though industrialized-country producers have at least a short-run interest in imposing high levels of protection on the developing countries, there is no convincing evidence that these high levels of IPRs protection will enhance economic development where it is most urgently required. See also Thurow (1997, p. 103) and Scherer (1998).
5. See the submission by India, WT/GC/W/225. The only exceptions to this general tone relate to the possible exclusion from patentability of living matter (proposed by the African Group, WT/GC/W/302) and of essential drugs as listed by the World Health Organization (proposed by Venezuela, WT/GC/W/282).
6. See the submission by the Dominican Republic and Honduras, WT/GC/W/119.
7. According to Reichman, these treaties "represent a balanced and reciprocally beneficial set of foundational rules, with which each state can adapt its Internet policies to its own needs" (Reichman 1999, p. 21).
8. This right may be subject to the principle of exhaustion (Article 6.1).
9. The possibility of transferring to the TRIPS Agreement the results achieved in other fora may give WIPO the opportunity to regain part of its lost role in the development of new international instruments on IPRs, as illustrated by the 1996 copyright treaties. Such possibility also raises strategic issues for developing countries. Negotiations in WIPO are generally conducted without a quid pro quo concept, that is, there is no broad negotiating package that allows one party to ask for concessions in other areas (as typically occurs in the framework of the WTO) as a "price" for the concessions given with regard to IPRs.
10. The target of this proposal also is the United States, where patents are only published after their granting.
11. See, for instance, the list of developing countries under threat of application of "Special 301", in USTR Press Release of 30 April 1999.
12. The European Union has initiated a complaint against the United States in the framework of the WTO dispute settlement system in connection with the unilateral application of trade sanctions under that section. Based on a

unilateral commitment by the United States, the WTO dispute settlement panel found, however, that the US law was not in violation of WTO rules.

13. The African Group has pointed out that Article 66.2 is couched in "best-endeavour" terms (WT/GC/W/302). However, the provision states that "developed country Members shall provide incentives", thereby indicating that it is not a merely hortatory clause.
14. Venezuela has further proposed to extend the obligation under Article 66.2 to developing countries (WT/GC/W/282).
15. These proposals are not shared by some developing countries, particularly from Latin America, which consider that they may ultimately benefit European rather than developing countries.
16. See also the submission by the Central European Free Trade Agreement (CEFTA) countries and Latvia (WT/GC/W/275).
17. See panel report on the USA v. India dispute, WT/DS50/R, 5 September 1997 (WTO 97-3496), and Appellate Body report, WT/DS50/AB/R, 19 December 1997 (97-5539).
18. See GRAIN (1999) and Tewolde (1999).
19. See US submission WT/GC/W/115 and the Communication from the Commission to the Council and the European Parliament, "The EU approach to the Milennium Round", 1999, p. 16.
20. This Group also noted that the early review of Article 27.3(b) in 1999, if made, would pre-empt the outcome of deliberations in other fora, such as the CBD, UPOV and FAO, and has, therefore, proposed to extend the deadline for implementation of the said provision.
21. This article requires prior informed consent for access and sharing of benefits with the country of origin of the obtained material.
22. According to US law, a disclosure made outside the US by means other than a publication does not destroy novelty.
23. See also the submission by Egypt, WT/GG/W/136.
24. See, in particular, the submissions by India and by the African Group.
25. The Organization of African Unity (OAU) has developed a "Model Law on Community Rights and Control of Access to Biological Resources" (1999).
26. Under Decision 391 of the Andean Pact, the Member countries thereof are bound to develop legal regimes for the protection of communities' knowledge. A constitutional provision to that effect has been adopted in Ecuador. None of the Andean countries, however, has so far developed such regimes.
27. A Working Group could be established, however, to deal with these issues. WIPO has started exploratory work on the matter.

28. See also the proposals by the Dominican Republic and Honduras (WT/GC/W/119) and Venezuela (WT/GC/W/282).
29. Document of 20 June 1996.
30. See, for instance, Correa (1997) and Reichman (1997).
31. As accepted under many national laws, a licence may be granted for "refusal to deal" when the patent holder has refused to grant a voluntary licence on reasonable commercial terms, particularly when this prejudices the development or establishment of a commercial or industrial activity or the supply of an export market (see, for example, UK patent law, Article 48.3.d).
32. For an analysis of this article, see Roffe (1998).
33. Chapter IV of the draft Code contained detailed provisions on restrictive practices in technology transfer arrangements.
34. Agenda 21, a Programme of Action for Sustainable Development, was approved at the United Nations Conference on Environment and Development (also known as the "Earth Summit") held in Rio de Janeiro on 3-14 June 1992.
35. The federal government financed 34% of all R&D expenditures in the United States in 1996 (Callan, Costigan and Keller 1997, p. 8).
36. See, on this subject, Eisenberg (1997).
37. Even the technologies developed with public funding or by public institutions are generally held as a proprietary asset by the respective institutions. A publicly held technology is not equivalent to a technology in the "public domain", that is, free for use by any interested party.
38. The United States has proposed to include as a prohibited TRIM "technology transfer requirements" (WT/GC/W/107 and 115).

REFERENCES

Abbott, Frederick (1998), "The enduring enigma of TRIPS: A challenge for the world economic system", *Journal of International Economic Law*, vol.1, No.4, Special Issue on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Barton, John (1999), "Intellectual property, biotechnology, and international trade: Two examples", prepared for Berne World Trade Forum, Bern University, 28-29 August.

Callan, Benedicte; Sean Costigan and Kenneth Keller (1997), *Exporting US High Tech: Facts and Fiction about the Globalization of Industrial R&D*, Council of Foreign Relations, New York.

Correa, Carlos (1997), "New international standards for intellectual property: Impact on technology flows and innovation in developing countries", *Science and Public Policy*, vol.24, No.2.

Correa, Carlos (1998), "Implementing the TRIPS Agreement in the patents field — Options for developing countries", *The Journal of World Intellectual Property*, vol.1, No.1.

Correa, Carlos (2000), *Intellectual Property Rights, the WTO and Developing Countries: The TRIPS Agreement and Policy Options,* Third World Network, Penang.

Eisenberg, Rebecca (1997), *Ownership, commercial development, transfer and use of publicly-funded research results: The US legal regime* (study prepared for UNCTAD Secretariat, mimeo).

GRAIN (Genetic Resources Action International) (1999), "UPOV on the war-path", *Seedling*, vol.16, No.2.

Kumar, Nagesh (1997), *Technology Generation and Technology Transfer in the World Economy: Recent Trends and Implications for Developing Countries*, The United Nations University, Institute of New Technologies, Maastricht.

Lall, S. (1992), *The interrelationship between investment flows and technology transfer: An overview of the main issues*, UNCTAD, ITD/TEC/1, Geneva.

Otten, Adrian (1999), "Implementing and enforcing TRIPS obligations", World Trade Forum, Berne, 28-29 August.

Reichman, J. (1997), "From free riders to fair followers: Global competition under the TRIPS Agreement", *New York University Journal of International Law and Politics*, vol. 29, No.1-2.

Reichman, J.H. (1998), "Securing compliance with the TRIPS Agreement after US v. India", *Journal of International Economic Law*, vol. 1, No. 4.

Reichman, J.H. (1999), "The TRIPS Agreement comes of age: Conflict or cooperation with the developing countries?", presented to the World Trade Forum, University of Berne, 28-29 August.

Reinbothe, Jorg; Maria Martin-Prat and Silke von Lewinski (1997), "The New WIPO Treaties: A First Resume", *EIPR*, No.4.

Roffe, Pedro (1998), "Control of anticompetitive practices in contractual licenses under the TRIPS Agreement", in C. Correa and A. Yusuf (Eds.), *Intellectual Property and International Trade: The TRIPS Agreement*, Kluwer Law International, London.

Sachs, Jeffrey (1999), "Helping the world's poorest", *The Economist*, 14 August.

Scherer, F.M. (1998), *The patent system and innovation in pharmaceuticals*, Harvard University (mimeo).

Sell, Susan (1998), *Power and Ideas: North-South Politics of Intellectual Property and Antitrust*, State University of New York Press, New York.

South Centre (1998), *The WTO Multilateral Trade Agenda and the South*, Geneva.

Tewolde Egziabher (1999), "The TRIPS Agreement of the WTO and the Convention on Biological Diversity: The need for coordinated action by the South", *Third World Resurgence*, No.106.

Thurow, Lester (1997), "Needed: a new system of intellectual property rights", *Harvard Business Review*, September-October.

UNCTAD (United Nations Conference on Trade and Development) (1993), *Fostering technological dynamism: Evolution of thought on technology capacity building and competitiveness. Summary of the review and analysis of the literature (draft)*, Report by the UNCTAD Secretariat, TD/B/WG.5/7, Geneva.

UNCTAD (United Nations Conference on Trade and Development) (1999), *Preparing for Future Multilateral Trade Negotiations: Issues and Research Needs from a Development Perspective*, United Nations, New York and Geneva.

UNDP (United Nations Development Programme) (1999), *Human Development Report 1999*, Oxford University Press, New York.

UN/TCMD (Transnational Corporations and Management Division of the United Nations Department of Economic and Social Development) (1992), *World Investment Report 1992: Transnational Corporations as Engines of Growth*, New York.

Vandoren, Paul (1999), "The implementation of the TRIPS Agreement", *The Journal of World Intellectual Property*, vol. 2, No. 1.

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REVIEW OF THE TRIPS AGREEMENT: FOSTERING THE TRANSFER OF TECHNOLOGY TO DEVELOPING COUNTRIES

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), part of the family of agreements within the folds of the World Trade Organization, is the most comprehensive international instrument on intellectual property rights (IPRs), setting standards on both the availability of rights and their enforcement in WTO Member countries. The strengthened and expanded protection of IPRs ushered in by the TRIPS Agreement does not, however, seem to have yielded much benefit to developing countries but has instead raised new concerns and problems with regard to implementation of the TRIPS rules.

This has prompted developing countries to put forward various proposals for reviewing the Agreement to balance the task of protecting IPRs with the promotion of development objectives. This paper examines the review proposals made on different aspects of the Agreement, according particular emphasis to the area of technology transfer.

Given that the North-South technological gap continues to grow despite — or perhaps because of — enhanced IPRs protection, the author suggests a systematic approach to effecting greater transfer of technology to developing countries, one that not only entails changes in the TRIPS provisions but also involves possible review of other WTO agreements.

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