TRIPS and Developing Countries: The Seattle Round and Beyond

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A. Introduction

The TRIPs (Trade-Related Aspects of Intellectual Property Rights) agreement was one of the most significant achievements of the Uruguay Round. For the multilateral trading system it represented a watershed in many respects (see Subramanian (1995)): for the first time, domestic policy instruments were *harmonized* whereas the thrust of trading rules previously was merely to avoid discrimination; second, the TRIPs agreement did not incorporate special and differential treatment (S&D) in the substantive obligations unlike many other areas, although S&D found expression in the delays allowed in implementing some obligations; third, TRIPs marked the incorporation of rules that were perceived to diminish developing countries' welfare and, arguably, also global welfare. Even for developing country votaries of the Washington Consensus, the following irony was not lost: whereas S&D continued to prevail in the rest of the system (witness the significantly lower levels of trade liberalization undertaken by developing countries in traditional market access areas), it was eschewed in the one area—TRIPs—where it could have been implemented in a way that genuinely advanced national and global welfare. And, finally, even as the perception of developing countries as a monolith with common interests was fading, TRIPs defied the trend by embodying a divisive North-South issue.

Today, as the world heads toward the so-called Millennial Round, the mood is marred by the legacy of TRIPs. There is a mood of disaffection amongst developing countries, a perception of imbalance in the trading system, which has crystallized around TRIPs and the obligations it has imposed.[1] But the good news on TRIPs for developing countries is that the next Round is going to be minimal rather than millennial in its impact. This is so for four reasons.

First, there is the strong influence of civil society groups within industrial countries, championing causes that can be argued to be at odds with intellectual property protection. For examples, the sanctity of human and animal life is perceived to be at variance with efforts to patent biotechnological inventions; and technologies such as the terminator gene are felt to run counter to environmental protection and the preservation of biodiversity.

Second, there is the inevitable intellectual/ideological backlash to the headlong embrace of free markets associated with the last 10-15 years. As the pendulum swings back, there is a greater focus now on the *abuse* of intellectual property (IP) protection and a

[1] This mood is to some extent odd because of the relatively few liberalization commitments undertaken by developing countries in the Uruguay Round, but can be traced to the nature of the Round's "grand bargain," whereby developing countries "got" textiles and agriculture and gave up intellectual property. The following aspects of this bargain contribute to developing country discontent: (i) liberalization in agriculture was relatively modest; (ii) intellectual property was given up in part *outside* the context of the multilateral bargaining process because of the aggressive unilateralism of the United States wielded through Section 301; and, (iii) fears still linger about the credibility of the eventual textiles liberalization and hence on the likelihood that developing countries will gain in this sector;

corresponding emphasis on competition and contestability. The recent intellectual property-related cases in the United States involving the prosecution of Microsoft, Intel, and Monsanto are illustrative of this new climate.

Third, private sector pressure in intellectual property-related industries has diminished in the last few years, reflecting the very success of the Uruguay Round. Many of the key commercial issues, at least the big ticket items such as pharmaceuticals and chemicals, were resolved in TRIPs to the broad satisfaction of IP-related companies. While issues and concerns remain, they are not of the same order of magnitude as those prior to the Uruguay Round.

And finally, there is the perception of imbalance that was referred to earlier. It would simply be too difficult to force developing countries to swallow more of the TRIPs pill.

The rest of this paper deals with 2 sets of IP issues—those that are likely to arise in the next Round and other long-term issues not necessarily related to the Seattle process. I shall attempt to distinguish between important and less important/marginal issues to indicate where developing countries should concentrate their time and effort. The attached annex contains a tabular summary of all the issues. In this paper, an attempt will be made, where appropriate, to distinguish two broad categories of developing countries—the more versus the less technologically advanced developing countries.

II. Seattle

For the next Round, there are issues of substance and strategy.

A. Important Substantive Issues

Genetic resources and indigenous knowledge: There does exist an area where developing countries could proactively use the IP system to harness important economic and environmental benefits related to their genetic resources and repository of indigenous knowledge. Developing countries have advanced the notion of farmers' rights and their right to remuneration for the use of endoplasm, seeds, and other genetic material used by foreign companies in the pharmaceutical and biotechnology sectors. In an ironic reversal of the rhetoric of the 1980s when developing countries were accused of piracy, it is now the industrial countries that stand accused of "biopiracy."

As Caletsous Juma's accompanying paper makes clear the Convention on Biological Diversity (CBD) makes a useful start in requiring registration systems that would identify and document the sources of genetic material and indigenous knowledge. This could provide the basis for the sharing of benefits from the use of such material and knowledge. The requirement in the CBD that those who use such material should obtain the prior informed consent of the country of origin of the material is also a useful step. One way of reconciling the TRIPs agreement and the CBD is for TRIPs to incorporate this

obligation of prior informed consent as a condition for obtaining a patent that uses genetic resources.

However, these are just starting points. The goal in this area must be to devise a system of internationally recognized proprietary rights for genetic resources and indigenous knowledge; that such a system could represent a market-based response for international cooperation; that its logic would be to address a potential market failure in relation to the maintenance and creation of genetic resources and indigenous knowledge (see Sedjo (1992), Subramanian (1992), Cottier (1998)). To be sure, there are several unresolved issues relating to the feasible implementation of this idea, and this is where greater time, energy, and research effort might be devoted by developing countries.

Implementing such a scheme will likely run into opposition. First, it will be argued that property rights cannot be accorded to things found in nature—this principle underpins patent systems all over the world. But the response would be that this legal principle does not always accord with the economic rationale for proprietary protection, which is to reward any effort whose fruits are ex post appropriable and hence subject to market failure. And the case for proprietary protection for genetic resources can be shown to be a response to this type of market failure. Second, there will be advocacy of the voluntary cooperation route, letting pharmaceutical companies enter into contracts with countries/communities that possess such resources as in the case of Merck and Costa Rica. But voluntary cooperation, though welcome, cannot be guaranteed in all instances; moreover, the terms of such cooperation will necessarily be influenced by whether or not there are prior rights to such resources. If these rights are internationally recognized and infringements credibly punishable, the reward for maintaining the resources will be higher than it otherwise would be.

A note of caution is in order here. While seeking protection of genetic resources and traditional knowledge is important, it is not clear at this stage how valuable in economic terms such protection will turn out to be even if it can be feasibly implemented. This uncertainty should condition how much developing countries are willing to "give up" to attain their goals in this area.

Geographical indications: In the next Round, the European Union is seeking extra protection for geographical indications originating in its territories such as those relating to wines and spirits. Some developing countries have sought similar protection for names originating in their territories (such as Basmati, Blue Mountain Coffee, and Darjeeling). While the value of such protection and the gains that it will yield are unclear, it is a principle that should be pursued in the next Round.

Building capacity: Most developing countries have implemented much of the new legislation required by the TRIPs agreement. However, they vary enormously in terms of how prepared or able the administrative apparatus—patent and trademark offices, administrative and judicial courts, customs procedures—is to implement and enforce the law. Considerable additional assistance may be necessary, especially for the poorer

countries, to implement their TRIPs obligations, especially if the costs of implementation are of the order estimated made by Finger and Schuler (1999).

In addition, some developing countries that are not classified as least-developed in the WTO are seeking extension of the implementation period for some of the TRIPs commitments, which should be considered seriously by partner countries.

A. Less Important Substantive Issues

Strong advocacy of the important issues needs to be accompanied by strategic understanding of where valuable negotiating coinage should not be frittered.

Undoing Uruguay: Insofar as the TRIPs agreement in the Uruguay Round did impose welfare-deteriorating obligations on developing countries, particularly in the pharmaceutical sector it might seem appropriate to redress the imbalance in the next Round.[2] However, developing countries are not seriously seeking to dilute the protection accorded to pharmaceutical patents for two reasons: first, many of them, especially the larger developing countries have already enacted legislation to give effect to the relevant provisions; and second, and perhaps more importantly, they suspect—and quite rightly—that any substantive diminution in the protection of pharmaceuticals and chemicals—will not fly in the US, EU, and Japan. This approach of not seeking a "TRIPs-minus" outcome is probably sensible for reasons discussed below.

Extension of the "non-violation" exemption: Under TRIPs, intellectual property matters cannot be subject to "non-violation" complaints until 2000. To understand what this means, it is useful to recall that WTO dispute settlement rules provide two avenues or bases for challenging partner country actions (or claiming that there has been "nullification and impairment of benefits"). The first basis for a challenge is when the partner country has breached the rules of the WTO (the "violation" route). The second basis is when a partner country takes action that may lead to nullification and impairment even though a rule may not have been explicitly breached. While somewhat arcane as a legal concept, the essential point to note is that the hurdles for successfully mounting non-violation complaints are many and nearly insurmountable.[3]

Developing country fears on this issue stem from the perceived vulnerability of price controls and other drugs-related policies, which though not in overt contravention of TRIPs rules, could nevertheless be challenged for impairing the benefits under the agreement. A successful non-violation complaint may be particularly difficult in TRIPs because IPRs are negative rights, i.e., they are rights that allow action against infringement by third parties. IPRs themselves do not confer positive rights such as the right to produce or market a product. To be sure, a price control dilutes the value of the monopoly, but legally IPRs do not guarantee a monopoly. Hence, a price control, as long

[2] See Subramanian (1994, 1995), Maskus and Konan (1994), and Watal (1996, 1999) for some illustrative estimates of the welfare losses to developing countries.

[3] In the entire history of the GATT/WTO, there have been only 8 non-violation complaints (out of a total of more than 300) and none has been successful. The recent complaint by the US against Japan's domestic distribution system was dismissed by a WTO panel.

as it is implemented while ensuring that other producers do not infringe the patent, cannot be seen as nullifying and impairing benefits. Of course, disallowing the non-violation avenue as a source of complaints would provide a cast-iron guarantee for developing countries to preserve domestic policy options such as price controls. But if the reasoning described above is correct, the chances are not high that non-violation complaints would ever seriously threaten important domestic policies. Hence, while it would be useful to foreclose this option, the value of such foreclosure may not be too great.

Extension of pharmaceutical protection: The extension of pharmaceutical protection (in any form) would potentially have serious consequences for developing countries. However, for the moment, developing countries will not need to assert themselves because the major trading partners have indicated that they are not likely to press them in the next Round. Similarly, the extension of protection to biotechnological inventions or to strengthen protection for plant variety protection are not going to be seriously pressed by the major players because of the contentious state of internal debate on these issues.

Codification of the status quo: Developing countries have put forward a number of proposals, including changing compulsory licence provisions and strengthening the anti-competitive provisions in the TRIPs agreement. These are not issues on which developing countries should waste negotiating time and effort because in most instances, the proposals seek to codify what the agreement would in any event allow them to do. A case in point is the anti-competitive provisions in Article 40. Following the Uruguay Round, these provisions were touted as a "victory" for developing countries, vindicating decades of work in the UNCTAD relating to restrictive business practices and other behavior of multinationals. The anti-competitive provisions in the TRIPs agreement broadly recognized the right of all countries, including developing ones, to domestically regulate anti-competitive behavior in the area of IPRs, a right that they always possessed.[4] Hence, proposals that seek to merely codify other policy actions of developing countries are either of limited value—because these actions can be taken any way; or even counterproductive, by calling into question whether they can be taken at all.

A final point relates to transfer of technology which developing countries are keen on pursuing. This is a laudable objective. But the experience of the last 20 years in international fora suggests that developing countries are muddled in their thinking on how this is to be achieved. For a long time, developing countries were persuaded into believing that the vehicle for attaining this objective was through multilateral action on restrictive business practices and transfer of technology provisions. But it was always clear that these actions could in any case be taken by developing countries. Developing countries have been chanting this mantra for too long without providing specific answers to the following questions: (i) what concrete actions of theirs—that they could *not* take in any case would help achieve transfer of technology; and, (ii) what concrete actions of

[4] The only real value of the anti-competitive provisions was perhaps the commitment by industrial country competition authorities to assist in the enforcement of competition policy by developing countries. This cooperation could be useful in cases relating to identification and redressal of transfer pricing practices, or where enforcement actions against foreign firms may be infeasible because they do not have any commercial presence in a developing country.

industrial country governments that do not involve coercion of private sector corporations or are otherwise unrealistic will help futher this same goal.

B. Negotiating Strategy

On strategy, the issue confronting developing countries is whether to acquiesce in a minimalist agenda, comprising essentially the built-in agenda or opt for a proactive stance. The latter entails the risk of provoking industrial countries into making fresh demands (such as those discussed in section C above) that are potentially inimical to their interests. It is difficult to assess these risks at this stage, but they would depend to a great extent on the nature of issues put forward by developing countries. For example, arguing for a positive agenda, involving protection for genetic resources and geographical indications, would be viewed with more sympathetic consideration than demands for rewriting the TRIPs agreement in a way that dilutes it. The latter is a high risk strategy and one that should only be seriously considered if there are clear indications of backtracking on Uruguay Round commitments such as textiles.

Developing countries will also be able to resist demands to increase the level of protection accorded in the pharmaceutical area or in the area of plant variety protection and biotechnological products.[5] The configuration of forces and the ideological climate in industrial countries will also work to the advantage of developing countries. But developing countries need to harness these forces more effectively, for example, by making common cause with generic drug producers in industrial countries and with nongovernmental groups, so that they more forcefully advocate the developing country case.

Finally, while it is tempting to argue for developing country solidarity, particularly since there continues to be some commonality of interests in TRIPs, this may not be a realistic strategy, and potentially misleading for those who might want to rely on this course to further their interests. It is important to recognize this early in the negotiations. There are potentially important differences of interests between developing countries *within* and *outside* TRIPs. There are differences of economic interests between potential creators of intellectual property (the large, technologically advanced developing countries) and net importers of intellectual property. This could be quite important in areas such as protection of plant varieties and biotechnological inventions.[6] Even on geographical indications, the interests of Asian countries diverge from those of Latin America, who fear that greater protection for geographical indications could pose problems for their wine industries. Differences of interests outside TRIPs will eventually affect the willingness of individual developing countries to compromise in TRIPs. For example, the attitude of developing country exporters of agriculture in TRIPs will be conditioned by how much liberalization can be attained in agriculture. There are differences emanating from participation in regional agreements. While many developing countries

[5] Whether it is desirable to maintain low levels of protection in the area of plants and biotechnological inventions, particularly for some of the more advanced developing countries, is an open question.

[6] In recent negotiations relating to genetically modified products, many Latin American countries found more in common with US positions than those of other developing countries because of their commercial interests in agriculture.

in Latin America may have similar views to others in the area of patents and pharmaceuticals, they may be more reticent about pursuing these interests in the multilateral arena because of upsetting the bargain that may have been struck in the context of the preferential agreement.

III. Beyond Seattle

In many ways, there are more important intellectual property issues outside and beyond Seattle that need to be addressed by developing countries.

A. Important issues

Coping with TRIPs--Compulsory Licensing and Competition Policy: The two most important policy instruments available to developing countries to mitigate some of the effects of the high levels of patent protection are compulsory licensing and competition policies. In principle, the flexibility associated with compulsory licensing can be exploited to dilute some of the effects of patent protection. This flexibility comes in two forms: first, countries are virtually unrestricted in the circumstances under which they can grant compulsory licences.[7] Second, while a number of conditions need to be fulfilled when these licences are granted, there is sufficient discretion available to national authorities to meet these conditions while at the same time diluting the monopolistic impact of the proprietary protection granted in the first place (Wattal (1998)).

From a TRIPs perspective, the advantages of deploying competition policy are twofold. First, there is a wide degree of latitude in determining the optimal degree of protection that balances the need to foster innovation while ensuring technological diffusion. And it is understood, even in industrial countries, that this balance—often blurred and always shifting—is determined by the joint action of IPR and competition policies. Put crudely, the standards set for anti-competitive practices can be such as to dilute the effects of IPR protection without running foul of the minimum standards laid out in the TRIPs agreement. For example, what constitutes abusive pricing is a question that will admit of a wide variety of answers. Developing countries can exploit this latitude through implementation of competition policies and mechanisms to implement them.[8] While progress has been made, there are still many developing countries where competition policy legislation and their implementation lag far behind.

The second advantage of using competition policies follows from the language of the TRIPs agreement. There is even greater flexibility in the use of compulsory licences—in two key respects--when they are granted to remedy anti-competitive practices,[9] which could be usefully harnessed by developing countries.

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[7] The only grounds on which compulsory licences cannot be granted is non-working of the patent locally which is discussed in section III below.

[8] Of course, competition policies should be motivated by wider concerns of making markets contestable (Maskus (1999)), but here I am focussing on the interface between IPRs and competition policies.

[9] When compulsory licences are used to remedy anti-competitive practices, the TRIPs agreement provides that no case needs to be made that (i) the patentee was unwilling to license the patent on reasonable

Vigilance on dispute settlement: Ambiguity permeates the TRIPs agreement. And that is not surprising because constructive ambiguity is almost a sine qua non for international agreements to be concluded. But the morning after can bring sobering difficulties. It is then up to the dispute settlement process either to give substance to this ambiguity or to throw the ball back to the political (negotiating) process to resolve it. There is increasing concern that the dispute settlement process in the WTO may be tending toward judicial activism, which may have ramifications for TRIPs and developing countries. They will need to keep a watchful eye on how TRIPs provisions are interpreted. Let me illustrate a few examples of the ambiguity in the provisions that may eventually turn out to be of particular significance to developing countries.

Effectiveness of enforcement: The TRIPs agreement implicitly mandates standards on the effectiveness and expeditiousness of national IPR enforcement. The key issue is whether these standards are *absolute or relative.* On the one hand, national enforcement of IPRs must be "expeditious," (suggesting an absolute standard); on the other hand, the TRIPs agreement "does not create any obligation to put in place a judicial system for the enforcement of IP rights distinct from that for enforcement of law in general, nor does it affect the capacity of Members to enforce their law," pointing to a relative standard. If, on average, it takes ten years for an IP case to move through the courts in India, would that constitute ineffective enforcement? Would it matter that the corresponding period was say 12 months in the EU or the US? Or could it invoke the fact that as a developing country, with limited resources, it could not be held to the same standard as an industrial country? It was understood in the negotiations that WTO panels should reasonably take into account the objective constraints facing a country. But this cannot be guaranteed and if panels did mandate absolute standards, other complications would arise. Why should IP cases be privileged domestically and would this be consistent with national priorities for the national system? These are uncharted waters but navigation through them will depend upon how the rules are interpreted.

Compensation for compulsory licences: Another potentially important instance of ambiguity relates to the remuneration that must be paid to patentees in the event that compulsory licences are granted. Remuneration must be "adequate…….taking into account the economic value…" of the licence. It would seem clear that the remuneration would be less than what the patentee would have obtained through a voluntary process of negotiating with potential licencees because that would be inherent in the compulsory licence whose rationale is to dilute the value of the patent. But this is not an uncontroversial interpretation of the TRIPs provisions.

Other cases currently going through WTO dispute settlements also arise from the ambiguity of TRIPs rules (see the annex for details of these cases). If panels resolve the ambiguity in favor of higher standards of protection, there may need to be concerted action by developing countries to check this trend through the negotiating process.

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commercial terms as a precondition for granting the compulsory licence; and (ii) the principle that remuneration for the compulsory licence should be "adequate" need not be respected.

Long-term public health issues: One of the major long term challenges for developing countries, particularly for but not restricted to those in Africa, is likely to be public health issues, such as the looming AIDS crisis. How should developing countries cope? There are intellectual property and non-intellectual property aspects to this question. Some of the concern in this area on the IP side is manifest in the proposal that developing countries should not be obliged to patent the list of medicines deemed to be essential now and in the future by the WHO. It is possible that public health-related drugs, including future cures for AIDS, TB etc., will be featured in this list. But this proposal will probably meet with resistance from the larger trading partners.

If this is ruled out, developing countries could invoke the public health/interest exception in the TRIPs agreement to grant compulsory licences for the domestic production of the relevant drugs, as South Africa signaled its interest in recently. The problem is that whereas this is a feasible option for large technologically advanced developing countries that can easily imitate the patented drug, it may be less feasible for the smaller African countries, which would then have to import the drugs. But where could they find these drugs at reasonable prices if the rest of the world is TRIPs-compliant? Only from those countries in which a similar TRIPs exception has been invoked. But TRIPs also limits (without entirely foreclosing) the possibility of countries exporting drugs produced under compulsory licences. This illustrates the hurdles that the less advanced countries will have to overcome if they are to address serious public health issues in a post-TRIPs world. Clearly, something needs to be done in this regard.

Another aspect to long-term public health issues relates to activating research and development on diseases affecting developing countries. For many important longer term public health (and indeed technology) issues facing African countries intellectual property protection is not a sufficient and may not even be a necessary condition for fostering interest in research in say vaccines for malaria or in improving productivity in tropical agriculture. If rewards are linked to purchasing power, it is not clear that African markets, even with strong IP protection, can create incentives for large pharmaceutical firms to invest in R&D of interest to them. International cooperation in this area would need to be along the lines of what Sachs (1999) has proposed, namely, to create an internationally-financed fund that victors in the R&D race will be guaranteed access to. IP protection in these markets will either be moot, or arguably even detrimental, to effective social delivery of important drugs.

TRIPs as tit for tat: John Whalley in his paper to this workshop asks how the commitment by industrial countries to remove all the MFA textile quotas ("walk off the cliff") can be made credible come January 1 2004. The easy answer seems to be that if the industrial countries renege on their commitment in textiles, developing countries should withdraw or threaten to withdraw their TRIPs obligations. This would set in motion a political economy process (the pharmaceutical companies lobbying the politicians from the textile states, imploring them to fulfil their commitments, soft money in wallet) that could prevent backtracking.

In principle, cross-retaliation in TRIPs could be a weapon for developing countries, but the peculiarities of IP make it more difficult than in other areas.[10] But a recent proposal (Subramanian and Wattal (forthcoming)), which demonstrates that these difficulties are not insuperable, needs to be considered by developing countries that are interested in ensuring that their trading partners abide by WTO rules and commitments. It also addresses broader concerns about the asymmetry of the WTO dispute settlement process and the lack of retaliatory power for developing countries.

B. Marginal Issues

Parallel Imports: The TRIPs agreement allows countries to choose whether or not to allow parallel imports (i.e., imports that are put on the market in another country with the consent of the patent holder). At stake here is whether right holders can prevent parallel imports and sustain price discrimination across markets, or be forced into a uniform monopoly. Developing countries hold a very strong position on this issue, in favor of preserving the right to allow parallel imports. At first blush, this appears to be paradoxical: first, theory would suggest that for a small market with a higher elasticity of demand, prices would be higher under a uniform monopoly than under a discriminating monopoly. Developing countries should therefore argue against parallel imports. Second, theory also suggests that it is the regime in the larger (industrial country) market that determines whether price equalization or discrimination will prevail. A developing country's regime appears to be irrelevant in determining the final price outcome. Thus not only should developing countries not be arguing for *their* right to allow parallel imports, but paradoxically arguing against the right of industrial countries to allow parallel imports. In this instance, notwithstanding their best efforts, their wishes seem to have been granted (at least in the patent area) because of the workings of political economy in which industrial country producer interests (against parallel imports in their market) have prevailed.

As against these theoretical arguments, there seems to be the empirical perception that developing countries (South Africa is a recent example) can find lower-cost source of parallel imports. Given these contrasting considerations, it is difficult to have a strong view in either direction. On balance, therefore, developing countries should probably not expend too much effort attempting to change or resisting pressures to change the status quo.

Compulsory licensing for non-working: Recently, developing countries have been attempting to resurrect the right to grant compulsory licences if patent owners do not "work" the patent (i.e. produce the patented product) locally. On balance, developing

[10] To see why, it is important to recall that IPRs are private rights conferred through domestic legislation. While it is easy to raise tariffs in retaliation, to withdraw private rights granted through domestic legislation would be very difficult, perhaps even unconstitutional in many legal systems. Furthermore, withdrawing rights would be of little value to a country unless alternative sources of production for the patented drug can be found (in welfare terms, even a foreign monopoly is better than zero supply to a market). This probably explains why many developing countries that have implemented their domestic TRIPs legislation have not provided for such cross-retaliation.

countries should resist raising this Lazarus from the dead. For three reasons. First, from a systemic perspective, it cannot be an efficient allocative principle if all countries require that production be located in their jurisdiction because comparative advantage could not be reasonably exploited. Second, in the area of pharmaceuticals where compulsory licences are most frequently employed, a non-working provision is either misguided or probably a non-credible threat. It is misguided because it is premised on the view that a domestic monopoly is significantly better than an import monopoly. While this may be true generally because local production generates positive technological spillovers, in the case of pharmaceuticals, this is less true because technologies are easily copyable. On the other hand, where technologies are not copyable, the threat of compulsory licensing may not be credible: even if the patent owner refuses to comply with the provision, alternative sources of production may not be easy to find. Finally, TRIPs disallows compulsory licensing on grounds of non-working. Seeking to reverse this for little obvious gain could again represent an inefficient use of negotiating coinage.

IV. TRIPs: Research Agenda for the Future

Arvind Panagariya in his accompanying paper makes an important point in stressing the need to build the research and analytical capacity in developing countries that could usefully inform policy positions. This would be particularly true for TRIPs where there is considerable uncertainty in a number of new (and as yet unlegislated) areas as to what the interests of individual developing countries are. Consider a few.

A. Research on agriculture-related technologies

Although an involuntary response for developing countries would be to choose low levels of plant variety protection, or protection for biotechnological inventions, this is not a position that is founded on underlying research. At least for the larger developing economies in Latin America and Asia, a case could be made that stronger proprietary protection could foster technological innovation in a manner that yields benefits to them. These benefits could be termed the *knowwho, knowwhat*, and *knowwhere* benefits. If stronger protection is provided, could research by developing country nationals be encouraged; could research on technologies of interest to developing countries be induced; and could such research be located in developing countries, engendering spillover effects and externalities. Some research on agriculture in India (Pray and Basant (1999) and Pray and Ramaswami (1999)) suggests that there is scope for positive answers to these questions.

Another avenue for research relates to the consequences of firms being able to create technological protection as an alternative to legal protection.[11] The final market structure may thus be beyond the capacity of a government to influence. In such a situation, even for a net importer of technological products, providing strong legal protection could be

[11] The terminator gene and the greater research in hybrids where second generation seeds are genetically weak are examples of endogenously chosen technological protection.

less adverse than not providing it, if the costs to the private sector of creating endogenous technological protection are high.

B. ***Genetic resources, indigenous knowledge, and biodiversity***

The research agenda should encompass scientific, economic, and legal issues. How extensive are genetic resources and indigenous knowledge, and to what uses can they be put? How important is the potential economic value of these resources? And finally, how to create a proprietary right that is enforceable internationally, and that rewards agents, including traditional communities, to preserve and create such resources and knowledge?

V. Conclusions

The forthcoming Round's impact on intellectual property issues is likely to be minimal rather than millennial. The very success of the Uruguay Round as well the current ideological climate, with the growing ascendancy of the voice of civil society groups, are the bases for such a prognosis. Developing countries should seek a positive agenda, comprising areas of potential interest to them such as proprietary rights for indigenous knowledge and genetic resources. They should probably desist from seeking a "TRIPs-minus" outcome because of the potential backlash that such a strategy could provoke. And they should certainly not fritter away their negotiating currency in areas where they already have adequate flexibility to pursue their interests.

The more important challenges for developing countries relate to the medium-term: how to mitigate some of the adverse impact of TRIPs; how to harness the potential of advances in technologies; and for the less advanced, how to cope with public health challenges and create incentives to undertake R&D in areas of particular interest to them. Compulsory licensing and effective and creative implementation of domestic competition policies offer the most promising avenues in regard to the first challenge. Further research will be necessary to identify the interests of developing countries in relation to the new genetic and plant technologies. For the less advanced developing countries, global cooperation outside the intellectual property area is likely to be the most effective response to the third challenge; the role of high levels of intellectual property protection in addressing this challenge may also need to be reconsidered.

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ANNEX

Summary of Intellectual Property Issues in Seattle Round and Beyond

I. Immediate/short-term Issues

Issue	Description	Comment	Developing Country Stance
Plant variety protection (part of the in-built review foreseen under TRIPs)	What form of intellectual property protection should be given to plant varieties	In the Uruguay Round, countries were allowed to grant some form of "effective" protection that was left undefined. The question is whether developing countries should grant strong protection either in the form of patent protection or in the form of plant variety protection as in the UPOV 1991 agreement or the weaker form of plant variety protection as in the UPOV 1978 agreement. Two key differences are that under the latter, farmers can maintain their seeds from one crop season to the next (the so-called "farmers privilege") and protected seeds can be used for research purposes without the consent of the right holder (the so-called breeders exemption).	Industrial countries are not intending to seek higher standards of protection from developing countries than required under TRIPs. This is a result of developments in their own countries which is less favorably disposed toward higher protection. Developing countries should decide unilaterally whether to go for stronger or weaker form of protection influenced by their assessment of whether they are likely to develop indigenous research capability in agriculture. There may well be differences in interests across developing countries depending on their indigenous R&D capabilities.
Biotechnological Inventions (part of the in-built review foreseen under TRIPs)	How should inventions relating to animals including humans and to genetic procedures be treated (part of built-in review)	In the Uruguay Round, this issue was left open to countries to decide because it raises issues related to morality, safety, biodiversity, and public interest.	Again, industrial countries are unlikely to seek to change the status quo, in part because of the contentious state of internal debate, arising from differences in attitudes toward genetically modified foodstuffs and in other social values, including the patentability of human life. Developing countries should decide on this unilaterally.
Biodiversity and Traditional Knowledge	The issue here is how to maintain biodiversity; how to adequately reward traditional and indigenous knowledge; and	The TRIPs agreement is silent on these issues; although the Convention on Biodiversity relates to these issues, its provisions are unclear and ambiguous.	This is potentially an important area for developing countries that provide such a large portion of the basic resources used in a variety of inventions. Developing countries should push for further study of this in WIPO and under TRIPs with a view to devising a workable proposal that would reward traditional knowledge and genetic resources.

	how to prevent so-called biopiracy whereby substances found in developing countries are used by pharmaceutical and other companies without adequately rewarding the source country.		
Non-violation provisions (part of the in-built review foreseen under TRIPs)	TRIPs matters were prevented from being subject to non-violation complaints for a period of 5 years. Put simply, these refer to whether a country can be in breach of its TRIPs commitments even if there were no explicit or overt contravention of the provisions of the agreement.	Developing countries wanted the non-violation exemption because they feared that practices such as price controls on pharmaceuticals, which were not explicitly disallowed by TRIPs, would nevertheless be challenged as constituting an impairment of the benefits flowing under TRIPs.	Nonviolation complaints have been very rare in the GATT/WTO, and have never been successful because of the onerous requirements. Of course, this could change, and so having the exemption is better or safer for developing countries than not having it. But in terms of orders of magnitude, developing countries should not spend much negotiating coinage trying to preserve the exemption.
Compulsory licence provisions	Compulsory licensing refers to the situations when the government decides to dilute the patent by granting parties other than the patentee the right to produce the patented product.	The issue here is whether developing countries should seek to further dilute the provisions on compulsory licensing, for example, by insisting on the right to grant licences when the patentee does not produce the invention locally (the so-called non-working exemption) or by explicitly stating other conditions under which such licences can be granted.	On balance, developing countries should recognize that the TRIPs compulsory licence provisions provide some flexibility to dilute patent protection. They should not for example, insist on the need to explicitly list the grounds on which they can be granted because currently TRIPs allows them to be granted for any number of reasons except for non-working. On non-working, developing countries' should abandon their hard-line stance because that is a battle they lost in the Uruguay Round, but more importantly because the economic argument for it is quite weak.
Strengthening anti-competitive practice provisions	The issue here is whether provisions on the anti-		It should be recognized that TRIPs merely codifies, and even that only partially, what countries are permitted to do nationally to curb anti-competitive practices arising from

	competitive abuse of IPRs should be strengthened in the TRIPs agreement.		strong IPR protection. To seek to codify what national laws can do is almost like questioning whether this flexibility is permitted in the first place.
Geographical indications (part of in-built review)	The issue here is how to protect certain names specific to certain geographic locations from being misappropriated or misused.	Just as the EU is seeking to prevent names such as Champagne from being used by other countries, certain developing countries such as India are seeking to protect names such as Darjeeling, Basmati etc.	While the value of such protection to developing countries in unclear, the principle that names in developing countries also need protection should be pursued.
Transfer of technology		The issue here is how to ensure better transfer of technology to developing countries.	Developing countries' thinking here is a bit muddled. If the transfer of technology depends crucially on a national regime that has a strong and well-enforced competition policy, and one that can address the effects of overly strong IPR protection, then this freedom is already available to developing countries. What they seem to seek to want is for developed country governments to force their companies to provide technology at non-market or subsidized prices. How this can be achieved, if at all, is not something that developing countries are clear about. They should not spend much negotiating coinage on this unless they can put forward cogent proposals that add meaningfully to the status quo.
Implementation capacity		Many developing countries, particularly the least developed, are facing difficulties in instituting their domestic IP systems.	Greater financial and technical assistance, including in collaboration with the World Bank, as well as more generous implementation schedules for the least developed countries should be considered.

II. Longer Term Issues

Extension of pharmaceutical protection	This principle comes in different forms: patent term extension and denial of early working exception; patentability of new uses for known substances; market	Patent term extension refers to increasing the patent term beyond the current 20 years where commercialization is delayed on account of lengthy regulatory procedures. The early working exception relates to the practice of countries such as Canada that grant	Even in industrial countries there is not a strong push in favor of this, hence developing countries are unlikely to face pressure in the near future. But this proposal should be resisted. The EU has filed a WTO dispute case against Canada on this issue. Although the TRIPs agreement would seem to allow the Canadian practice, a defeat for Canada should activate

	exclusivity for products produced using test data that are protected against unfair commercial use	marketing approval for generic products even during the life of the patent term to ensure that generics can get on to the market as soon as the patent expires. The US and EU industries claim that even though patents cannot be obtained for new uses of known substances such situations should be protected because of the costs involved in developing the new therapeutic uses. If test data used to grant regulatory approval for a pharmaceutical or agricultural chemical that is itself not patentable, should some exclusive rights be granted nevertheless because of the effort involved in generating such data (for example, clinical trials).	developing countries into seeking to change this outcome. Again, developing countries are unlikely to be pressured on this issue, although they should be alert to preventing this from occurring in the future The TRIPs agreement is unclear on this point and resolution may be forthcoming in a future dispute between the US and Argentina.
Parallel Imports	Should the TRIPs provisions be changed to either explicity allow parallel imports (thereby creating a uniform global monopoly in patented products) or to explicitly disallow parallel imports, which would create a discriminating monopoly).	The TRIPs agreement neither allows nor disallows parallel imports, leaving this matter for countries to decide. Developing countries have insisted on their right to have parallel imports while the US and EU, in the area of patents, would like to see parallel imports disallowed. This issue has come into prominence recently after South Africa's decision to allow parallel imports led to trade frictions between it and the US.	Two points are worth making here. In theory, if parallel imports were permitted, prices in developing countries would be *higher than if parallel imports were disallowed*. Hence, in principle, developing countries should want to disallow parallel imports (contrary to their stated position), industrial countries should, by the same token want to allow parallel imports, although industrial country producers would strongly favor a prohibition on parallel imports. It is important to note that a corollary of the theory is that it is the regime in industrial countries, not that in developing countries, that will determine whether price equalization or discrimination occurs. However, in practice, and contrary to the predictions of theory, developing countries do seem to find legitimate lower priced sources of pharmaceutical products making it ambiguous what their stance should be.
Public health issues	One such issue is to seek acceptance of the principle that countries should not be obliged to patent	If for example, cures for diseases such as AIDS or malaria were to be discovered and patented, should developing countries be obliged to protect them and thereby face high prices in their	This issue is a tricky one. On the one hand, if patenting of pharmaceuticals in general is welfare-deteriorating for developing countries that are usually net importers of such products, any dilution of this would be in their interest. This would be particularly essential and potentially far-reaching for drugs that cure widespread diseases. On the other hand, this

	medicines that are or will in future be deemed essential by the WHO.	markets for such drugs. The case of South Africa and AIDS illustrates this predicament.	is a proposal that will be rejected offhand by industrial countries as the loss of profits from weak IPR protection in developing countries was the raison d'être for TRIPs, and arguably the Uruguay Round. Also, whether public health interests are best served by changes in IPR regimes or through other approaches such as those proposed by Sachs (1999) needs to be given more serious consideration.
Effectiveness of enforcement	The TRIPs agreement requires effective and expeditious national enforcement of IPRs.	The issue here is whether the standards for such enforcement are *absolute or relative.* On the one hand, enforcement standards have to be effective and expeditious (suggesting an absolute standard); on the other hand, the TRIPs agreement "does not create any obligation to put in place a judicial system for the enforcement of IP rights distinct from that for the enforcement of law in general,.." (suggesting that standards of enforcement would have to be judged relative to the domestic legal system in general).	While this is not an issue currently, it could come up in the future and developing countries need to be alert to and prevent an absolute interpretation of the enforcement provisions (see Subramanian (1995)).
New WIPO Treaties	Two new treaties have been concluded in the WIPO on copyright (which basically builds on TRIPs in the area of digital technologies) and on rights of performers and phonogram producers.	The issue here is whether these obligations in the WIPO should be made part of the TRIPs agreement.	Developing countries should determine unilaterally whether these additional obligations are onerous.
Electronic commerce	One of the key issues here relates to domain names such as .org, .com, .net etc.		The legal provisions on this issue as on electronic commerce in general is very much in flux and needs to be watched by developing countries.