



FOR A FULL REVIEW OF TRIPS 27.3(b)

An update on where developing countries stand with the push to patent life at WTO

GRAIN
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Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

Article 27: Patentable Subject Matter

3. Members may also exclude from patentability: (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.

Introduction

The TRIPS Agreement is one of the pillars of the global trade regime which is enforced through the World Trade Organisation (WTO). TRIPS defines minimum standards of protection for intellectual property rights (IPR) in the 135 WTO member states. Section Five, devoted to patents, states that inventions in every field of technology should be patentable. This includes life forms. And this is highly controversial.

Under TRIPS, WTO member states must provide patent protection over micro-organisms and microbiological processes, such as those used in biotechnology today. Countries are free to exclude plants and animals from their patent laws. However, all nations must provide intellectual property titles over plant varieties, either through patents or through an 'effective *sui generis* system'. Article 27.3(b), in which these rules are spelled out, was due to be reviewed in 1999.

This paper summarises what occurred with the review of TRIPS Article 27.3(b) in 1999. It shares GRAIN's understanding of how far developing countries are in the process of implementing the obligation to provide IPR over plant varieties. And it ends with an appeal to act seriously, now, on the proposals advanced by many South governments, *viz.* a thorough review of the provisions of Article 27.3(b), an extension of the transition periods and the resolution of outstanding issues such as the call to clarify that life forms should not be patentable.

1. WHAT HAPPENED TO THE 1999 REVIEW OF ARTICLE 27.3(b)?

TRIPS is a product of the last round of GATT negotiations, which took eight years to conclude (1986-1994). IPR was an entirely new item on that negotiating agenda. It was the United States which argued for its inclusion under pressure from the pharmaceutical industry, representatives of which drafted the basic language for discussion. The developing countries fought against the introduction of IPR into the world trade talks. They argued that different economies need different tools to stimulate innovation and that imposing uniform rules to protect monopoly rights in the form of IPR would benefit foreign multinationals more than their own industries. By reason or by coercion, the US won and TRIPS became the third pillar of the world trade regime along with goods and services.

The whole matter of IPR over life forms was particularly controversial. The US wanted full patent protection for all fields of technology but the Europeans prohibit patents on plant and animal varieties, and essentially biological processes for the production of plants and animals, under the European Patent Convention. A compromise was reached: TRIPS would use the language of European law as a starting point. That language is embodied now in TRIPS Article 27.3(b) under the proviso that countries would review the provision four years after the coming into force of the Agreement, *i.e.* in 1999.

Developing countries had positive hopes for the 1999 review of 27.3(b). The exercise was taking place one year before they were obliged to implement the provision. This was important because the provision itself was the source of tremendous uncertainty in the South (see Box 1, page 3). Many people hoped that TRIPS could be clarified through the review and, if possible, amended to better suit the development interests of the South, particularly since Third World countries were hardly heard during the GATT negotiation itself.

One year after the launch of the review, what can we say about it? Overall, it has been a disappointment. The review started, but it did not end. Developing countries made concrete recommendations for clarification of TRIPS, but these were not acted upon. Finally, the deadline for implementation of Article 27.3(b) in developing countries, 1 January 2000, arrived before any conclusions could be drawn from the mandated re-examination of the text. In sum, although the review has not been a failure, it does not seem to have been very effective.

Box 1: Problems embedded in Art. 27.3(b)

There are extraordinary problems with Article 27.3(b) of the TRIPS Agreement:

- No parameters for what a '*sui generis*' system can amount to.
- No parameters for what is 'effective'.
- Many WTO members have expressed their view that genes and microbiological processes are not inventions and therefore are not patentable subject matter.
- With its lack of any benefit-sharing mechanism, TRIPS offers no remedy for the ongoing wave of biopiracy and is perceived as exacerbating the problem.
- There is a bias ingrained in TRIPS to protect breeders and biotechnologists at the expense of farmers and local communities.
- Many countries perceive a conflict between TRIPS and the rights and obligations countries previously acquired under the Convention on Biological Diversity (CBD).

In addition, there is evidence that plant variety laws inspired by the Union for the Protection of New Varieties of Plants (UPOV) have no positive impact on food security¹, a matter that the TRIPS Council has not looked into.

Retracing the debate²

December 1998: The review essentially took off during the TRIPS Council session in December 1998, when the agenda was defined. At that sitting, industrialised countries took the first shot by motioning to focus the review on how countries are implementing Article 27.3(b). The South objected, arguing that the Article mandates a review of the provisions, or substance, of the subparagraph, not its implementation. Furthermore, only developed countries were obliged to have implemented by then, so the breadth of the review would be quite limited. In spite of this, the session ended with a mandate on the Secretariat to collect information about how countries were implementing 27.3(b).

February 1999: At this next session of the TRIPS Council, the Secretariat provided the information it had collated on implementation so far. Twelve countries had responded to a questionnaire, including a lone informant from the South, Zambia. The discussion lasted 20 minutes before the members decided to request the Secretariat to repackage the material for the next meeting, so that they could better digest it.

April 1999: By this time, 30 countries had submitted information on implementation. During the discussion, the US and Europe argued that what should be completed in the course of the year is a review of implementation. They also allegedly stated that they had open minds about reviewing the provision itself.³

¹ GRAIN (1999). *Plant variety protection to feed Africa? Rhetoric versus reality*, Barcelona, October. <http://www.grain.org/publications/reports/variety.htm>

² Unless indicated otherwise, information on the TRIPS Council proceedings was kindly provided to GRAIN by the Information and Media Division of the WTO over the course of the past 15 months.

³ According to International Centre for Trade & Sustainable Development, 'TRIPS Council discusses plant patenting', *BRIDGES Weekly Trade News Digest*, Vol 3, No 15 & 16, Geneva, 26 April 1999.

July 1999: At this session, discussion on the substance of the provision itself finally commenced. India presented a paper outlining its basic analysis of Article 27.3(b) and the problems posed to developing countries. According to India, there are two dimensions to deal with: the need to re-examine whether patenting life is acceptable in terms of ethics; and the need to recognise not only formal systems of innovation but informal systems as well, especially with regard to biodiversity. In particular, India insisted on the need to reconcile TRIPS with the Convention on Biological Diversity (CBD). The developing countries supported India. The developed countries evaded India. Malaysia took the discussion a step further by asking the Secretariat to prepare a list of *sui generis* options outside of UPOV.

It is important to signal that around this time, the preparations for the WTO's Third Ministerial Conference, to be held in Seattle on 30 November - 3 December, entered a critical phase. Between the July and October sessions of the TRIPS Council, almost 100 developing countries signed onto a near dozen proposals to reform TRIPS as far as biodiversity and indigenous knowledge were concerned (see Table 2, annexed). These proposals were tabled in the WTO's General Council for negotiation at the Ministerial. The Africa Group's position was the first and most substantial from the South.⁴ It proposed an extension of the deadline to implement TRIPS 27.3(b) in the developing countries so that the review may proceed and conclude properly. It also enumerated what the Africa Group would like to see clarified through the review: that patents on life should be prohibited, including those on microbiological processes. The LDCs stated that they wished to achieve the same clarification in the Agreement. An extension of the transition period plus a clarification of what TRIPS may allow in the sphere of patenting amounted to a proposal for a moratorium on implementation of the current text, in the eyes of many.

October 1999: Back in the TRIPS Council, the South continued to proactively shape the frame for a review of the provisions of Art. 27.3(b), while the North also dived into issues of substance. India and the Africa Group each tabled further papers, basically restating and elaborating upon positions presented earlier. In addition, the Africa Group formally submitted its Seattle position for deliberation by the TRIPS Council.⁵ The United States argued that the patenting of life forms has tremendous advantages, that UPOV '91 is what Washington would consider an effective *sui generis* system, and that there is no conflict between TRIPS and the CBD.⁶ Europe supported the US perspective, although it indicated that it was prepared to take into account the need to deal with ethics and, by way of example, provide protection for traditional knowledge systems. The EU also urged all WTO members to adopt *sui generis* legislation conform with UPOV '91. Norway said it was taking a middle ground in that biotechnology and IPR are important but not at the expense of the ethics of patenting life, the need to ensure benefit-sharing and the need to ascertain the compatibility of TRIPS with CBD. Australia said the review of 27.3(b) should proceed after developing countries implement it!

⁴ *Preparations for the 1999 Ministerial Conference: The TRIPS Agreement. Communication from Kenya on behalf of the African Group.* WTO, Geneva, WT/GC/W/302, 6 August 1999.

⁵ *Statement by Kenya on Behalf of the Africa Group: Article 27.3(b) of the TRIPS Agreement*, paper presented at the TRIPS Council, WTO, Geneva, 20 October 1999, 2 pp.

⁶ *Article 27.3(b): Views of the United States of America*, paper presented at the TRIPS Council, WTO, Geneva, 20 October 1999, 7 pp.

Seattle and post-Seattle

Then came Seattle. Beyond the tear gas, a negotiating text reflecting proposals on TRIPS from the Africa Group and the Like-Minded Group of developing countries was on the table. One 'Green Room' session, involving a limited number of participants, looked at the TRIPS chapter but did not conclude anything. As the Conference was 'suspended' without any agreement on where negotiations stood or how they would proceed, the status of all these ideas and demands is unclear. What is clear is that they were officially tabled and they have not been properly deliberated or decided upon.

At the December 1999 meeting of the General Council, two weeks after Seattle, the Chairman said that consultations on the Seattle issues – including TRIPS – would continue after the New Year and that countries should exercise 'restraint' in dealing with implementation deadlines in the meantime.⁷

This is where the review of Article 27.3(b) stands at present:

- The discussion was not completed in the TRIPS Council. In fact, it is on the agenda for the Council's next session on 21-22 March 2000 .
- The proposals for clarification of Article 27.3(b) channelled through the General Council for Seattle were not properly deliberated or decided upon, even though such decisions would have profoundly affected what the developing countries would have implemented by 1 January 2000, their original deadline.
- Most developing countries have not fulfilled their obligation to implement the sub-paragraph, as we detail below.

In short, the review process so far has generated no clarifications, no responses to precise proposals from the South, great delays in getting down to the substance of the discussion and general confusion at present about obligations and opportunities.

2. IMPLEMENTATION OF ARTICLE 27.3(b) IN THE SOUTH: STATE OF PLAY

The vast majority of developing countries which are members of WTO have been approaching their obligation to grant intellectual property rights over plant varieties through 'an effective *sui generis* system' – whatever that means – and not through patenting.⁸ The deadline to have such legislation in place⁹ was 1 January 2000 for developing countries.

Despite the threat of possible trade sanctions, however, just a few managed to adopt such legislation in the final hour. We are aware of only 21 developing country members of WTO

⁷ World Trade Organisation Secretariat, *General Council defers post-Seattle discussion until early 2000*, WTO, Geneva, 17 December 1999

⁸ At present, only the United States and the Republic of Korea explicitly provide patent protection for plant varieties.

⁹ Some interpret this deadline as one requiring that the process to implement was in motion, but not necessarily completed.

which currently have plant variety protection (PVP) legislation in place, listed in Table 1. That would leave 76 WTO members in the South still lacking IPR protection for plant varieties. Since 29 of those 76 are classed as 'least-developed' countries (LDCs) and have a longer transition period ending 1 January 2006, we nevertheless face a situation where 47 Third World countries could be considered targets at this moment for dispute proceedings in Geneva on grounds of non-compliance with TRIPS Article 27.3(b).

Table 1: Developing country members of WTO which had plant variety protection laws in place on 1 January 2000

Africa & Middle East	Asia-Pacific	Latin America & Caribbean
Kenya*, Morocco, South Africa*, Zimbabwe	Hong Kong, Korea, Thailand	Argentina*, Bolivia*, Brazil*, Chile*, Colombia*, Ecuador*, Mexico, Nicaragua, Panama*, Paraguay*, Peru*, Trinidad & Tobago*, Uruguay*, Venezuela*

* Member of the Union for the Protection of New Varieties of Plants (UPOV, Geneva), 1978 Act

Source: Information compiled by GRAIN from various sources, February 2000

In Africa, Kenya, South Africa and Zimbabwe adopted PVP back in the 1970s. Morocco is the only African country we know of that implemented some kind of *sui generis* law on plant varieties, for the purpose of TRIPS, in 1999. Since for the purpose of WTO there are 24 LDC members in Africa, the remaining 21 members being developing countries, **80% of the African countries which should have implemented Article 27.3(b) by now have not.**

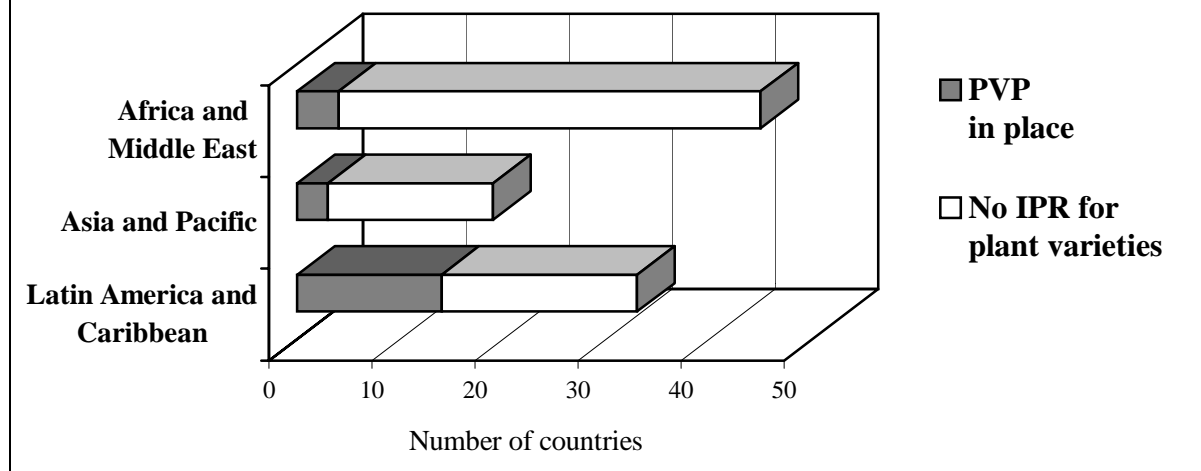
In Asia, things are also moving slowly. Korea and Hong Kong both adopted PVP, for the purpose of TRIPS, a few years ago. China did the same, and went so far as joining UPOV last year, even though she is not member of WTO. For the rest, only Thailand established a *sui generis* regime last year. With Bangladesh, Maldives, Myanmar and the Solomon Islands slated as LDCs in the WTO household, this means that **in the Asia-Pacific region as well, 80% of the countries which should have implemented TRIPS Article 27.3(b) by now have not.**

The situation in Latin America is somewhat different. Southern Cone countries such as Argentina and Chile installed IPR regimes over plant varieties several years back. Mexico established its PVP law as a condition for joining NAFTA. The five Andean Community countries adopted a regional regime, modelled on UPOV, under Andean Pact Decision 345. After some debate and much uncertainty, Brazil passed a national PVP law in 1997 and joined UPOV last year. In the final run-up to the TRIPS deadline itself, only Panama and Nicaragua passed new legislation. With Haiti having the longer transition period for LDCs, we nevertheless conclude that **56% of the Latin American and Caribbean states which should have implemented TRIPS Article 27.3(b) by now have not.**

Cumulatively, this means that 70% of the (non-LDC) developing countries which participate in the WTO system are presently in arrears of their obligations regarding TRIPS Article 27.3(b).

The accompanying graph gives the total picture in the South right now, LDCs included.

STATUS OF TRIPS 27.3(b) IMPLEMENTATION IN THE SOUTH



Source: Information compiled by GRAIN from numerous sources, February 2000

This does not mean that countries are inactive on the legislative front. Far from it. India, Egypt and the Philippines have final drafts under scrutiny by their national assemblies right now. Costa Rica, Malaysia, Pakistan and Egypt are either discussing drafts or have them awaiting Ministerial or Cabinet approval for submission to Parliament. Many other countries are still drafting. For example, most of the member states of the Organisation of African Unity are deeply engaged in a process to develop national legislation based on a regional Model Law which was only finalised last November. The OAU Model Law covers not only breeders' rights but also farmers' rights, benefit-sharing and rules on access to genetic resources. In francophone Africa, the 15 members of the Organisation Africaine de la Propriété Intellectuelle revised the Bangui Agreement in February 1999, incorporating a UPOV-based system of intellectual property rights for plant varieties. But to the best of our knowledge, national PVP laws drawn from the revised Bangui Agreement are not yet in force in the member states.¹⁰

In the meantime, UPOV appears in a desperate state. Anxious to envelope more countries in its fold, and thereby boost its credibility, the UPOV Council decided last October to extend an open invitation to India, Nicaragua and Zimbabwe to accede to the 1978 Act even though it was officially closed to further accessions in 1998. If this sudden largesse doesn't speak loudly enough, the Secretary-General of UPOV has announced to colleagues that he will take an early retirement this year. UPOV is even starting to change its tune and concede that countries can develop effective *sui generis* legislation that is not 'essentially derived' from the UPOV regime.

¹⁰ Cameroon ratified – without parliamentary discussion – but there is still no national law in force. In the other countries, the ratification process is reportedly stalled.

These could all be signs that the belief in a ready-made solution to the TRIPS 27.3(b) conundrum is crumbling.

What can we learn from all this? The message is that despite four-year transition periods, despite best intentions to bear the cost of inclusion in the WTO trade system and despite all the pressure and countless workshops organised by the industrialised world, including UPOV, *developing countries are not ready to implement TRIPS Article 27.3(b)*. And they have good reason to be in this state. Since the mid-1990s, they have been under intense, often unilateral, pressure from industrialised countries to follow the UPOV model of plant variety protection as means of implementation – something which many developing countries strongly feel is not in their interest. The WTO itself joined in this campaign by sponsoring a series of workshops for developing countries on UPOV-as-*sui-generis*-solution at that same time that it was hosting a review which was supposed to revisit the very provision. Then, proposals from developing countries to clarify what the Article means, not only through the TRIPS Council review but a Ministerial Conference, were not dealt with. Finally, commitments to other treaties which TRIPS overlaps with, *viz.* the CBD and the International Undertaking at FAO, coupled with high sensitivity for the impact of TRIPS on biodiversity, have inclined many developing countries to want to ensure that community rights and farmers' rights are not torpedoed by rash legislation favouring industrial plant breeders. This last factor has made the drafting work more complex and heavy-going for the developing countries, but potentially less inimical to the interests of their citizens than UPOV, WTO and rest of the industrialised world would seem to have it.

Those developing countries which did adopt UPOV-based PVP laws reacted understandably to all these conflicting pressures. But they did so in most cases – not all – without meaningful consultation or debate with those who will be most affected: the farming and indigenous communities. They certainly did not, in any case, resolve the underlying conflicts.

3. FOR A FULL-FLEDGED REVIEW

It is hard to escape the conclusion that a full and thorough review of Article 27.3(b) is imperative. As stated before, the current text is the result of a compromise between Europe and the USA, with no proper consideration of the interests of developing countries or of the principles embedded in the CBD and other international agreements. In addition, the text as it stands is full of dangerous ambiguities. Rather than bulldoze ahead and force inappropriate legislation upon developing countries and their farmers, it is important to seriously review the Article as originally agreed, and clarify its scope, meaning and objectives taking into account all these interests and concerns.

In that context, the Africa Group has offered the most comprehensive proposal on how to move forward and it merits full support – and active implementation – without further delay. It can be seen as leading to a moratorium in as much as it demands a thorough review procedure, an extension of the transition periods, and specific clarifications which would result in amendment of the treaty. However one designates it, this is no way means that countries should abandon their efforts to develop appropriate and balanced national systems of rights in the meantime. On the

contrary, putting the Africa Group's proposal into action should provide the appropriate time and space for developing countries to elaborate, in a more integrated and consultative way, legislation that properly meets their needs. Protecting biodiversity, promoting its sustainable use, and giving fair recognition to the rights and interests of local communities and indigenous peoples cannot be sidelined from implementation of TRIPS. Yes, these are objectives and issues that go far beyond the scope of any world trade system. But they stand directly in the way of the current WTO TRIPS Agreement.

In conclusion, putting the Africa Group's proposals into action, now, is defensible on the grounds that:

1. The substantive review of 27.3b has not been concluded.

When TRIPS was adopted in 1994, it was agreed that a review of the provisions of Article 27.3b would take place prior to implementation in the South. The review commenced in 1999 and developing countries raised many substantive concerns about the text, which they themselves had hardly been involved in drafting. Four meetings of the TRIPS Council in 1999 was not enough to complete the discussion and the year ended with many countries requesting extensions of the deadline and with serious concerns laid out on the table.

2. Specific demands to amend Art. 27.3(b), tabled for Seattle, have not been dealt with.

The specific demands of nearly 100 developing countries relating to TRIPS 27.3b are laid down in a series of proposals. These proposals were submitted to the General Council in the latter half of 1999, and transposed into a Ministerial negotiating text, but could not be properly discussed in Seattle and have not been treated by the TRIPS Council either. They are therefore still awaiting fair hearing, discussion and response at the WTO.

3. There is strong popular support for the Africa Group position.

Peoples' movements and NGOs, not to mention Parliaments, lawyers and academies of science, from around the world have urged their governments to support the position of the Africa Group.¹¹ This indicates strong public appeal that should not be ignored, especially on such a sensitive issue as establishing monopoly rights over the basis of the food supply.

4. Together, the post-Seattle legitimacy slump of WTO and the ongoing nature of the 27.3b review leave space for developing countries to be proactive.

The collapse of the Seattle process could very well mark the start of a new era in which developing countries increasingly and successfully challenge the over-expanding reach and undemocratic functioning of the WTO, and the way it has served the interests of the industrialised world and its mega-corporations. In that context, these are times to review and rebuild – not to rush ahead and adopt inappropriate IPR laws.

¹¹ See for example <http://www.twinside.org.sg/title/273bst-cn.htm>

ANNEX

Table 2: Official developing country proposals for the review or renegotiation of TRIPS as regards biodiversity and associated knowledge (1999)

Stakeholder	Patenting (life forms & biological processes)	<i>Sui generis</i> rights (plant varieties)
Kenya ^a	<ul style="list-style-type: none"> - Need five-year extension of transition period - Harmonise TRIPS with CBD 	<ul style="list-style-type: none"> - Need five-year extension of transition period - Increase scope of 27.3(b) to include protection of indigenous knowledge and farmers' rights - Harmonise TRIPS with CBD
Venezuela ^b	In 2000, introduce mandatory system of IPR protection for traditional knowledge of indigenous and local communities, based on the need to recognise collective rights	
Africa Group ^c	<ul style="list-style-type: none"> - Review should be extended + additional five year transition after that - Review should clarify that plants, animals, microorganisms, their parts and natural processes cannot be patented 	<ul style="list-style-type: none"> - Review should be extended + additional five year transition after that - <i>Sui generis</i> laws should allow for protection of community rights, continuation of farmers' practices and prevention of anti-competitive practices which threaten food sovereignty - Harmonise TRIPS with CBD and FAO
LDC Group ^d	<ul style="list-style-type: none"> - There should be a formal clarification that naturally occurring plants and animals, as well as their parts (gene sequences), plus essentially biological processes, are not patentable. - Incorporate provision that patents must not be granted without prior informed consent of country of origin - Patents inconsistent with CBD Art 15 (access) should not be granted - Need for extended transition period 	<ul style="list-style-type: none"> - <i>Sui generis</i> provisions must be flexible enough to suit each country's seed supply system - Need for extended transition period
Jamaica, Sri Lanka, Tanzania, Uganda, Zambia ^e	No patenting plants without prior informed consent of government and communities in country of origin	
SAARC ^f	There is a need to prevent piracy of traditional knowledge built around bio-diversity and to seek the harmonization of the TRIPS Agreements with the UN Convention on Biological Diversity so as to ensure appropriate returns to traditional communities.	
SADC ^g	<ul style="list-style-type: none"> - The transitional period for implementation of 27.3(b) should be extended and the 2000 review should be delayed. - The review of 27.3(b) should harmonise TRIPS with CBD. - The exclusion of essentially biological processes from patentability should extend to microbiological processes. 	<ul style="list-style-type: none"> - The transitional period for implementation of 27.3(b) should be extended and the 2000 review should be delayed. - The review of 27.3(b) should retain the <i>sui generis</i> option.
G77 ^h	Future negotiations must make operational the provisions relating to the transfer of technology, to the mutual advantage of producers and users of technological knowledge and seek mechanisms for a balanced protection of biological resources and disciplines to protect traditional knowledge	

Stakeholder	Patenting (life forms & biological processes)	<i>Sui generis</i> rights (plant varieties)
Bolivia, Colombia, Ecuador, Nicaragua, and Perú ⁱ	The Seattle Ministerial Conference should adopt a mandate to: (a) carry out studies in order to make recommendations on the most appropriate means of recognizing and protecting traditional knowledge (TK) as the subject matter of IPR; (b) initiate negotiations with a view to establishing a multilateral legal framework that will grant effective protection to the expressions and manifestations of TK; (c) complete the legal framework envisaged in paragraph (b) above in time for it to be included as part of the results of the new round of trade negotiations.	

^a WT/GC/W/23 of 5 July 1999

^b WT/GC/W/282 of 6 August 1999

^c WT/GC/W/302 of 6 August 1999

^d WT/GC/W/251 of 13 July 1999

^e <http://www.foe.org/international/wto/govt.html> of 2 September 1999

^f WT/L/326 of 22 October 1999

^g WT/L/317 of 1 October 1999.

^h WT/MIN(99)/3 of 2 November 1999

ⁱ WT/GC/W/362 of 12 October 1999

ACRONYMS USED IN THIS REPORT

CBD	United Nations Convention on Biological Diversity
EU	European Union
FAO	United Nations Food and Agriculture Organisation
GATT	General Agreement on Tariffs and Trade
G77	Group of 77 developing countries at the United Nations
IPR	intellectual property right(s)
LDC	least-developed country
NAFTA	North America Free Trade Agreement
SAARC	South Asia Association for Regional Cooperation
SADC	Southern Africa Development Cooperation
TK	traditional knowledge
TRIPS	Trade Related Aspects of Intellectual Property Rights
UPOV	Union for the Protection of New Varieties of Plants
WTO	World Trade Organisation

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Translations into French and Spanish are forthcoming.