9-6

Biosafety, Trade, and the Cartagena Protocol

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Executive Summary

Global production of genetically modified (GM) agricultural commodities has increased significantly in the past decade. Some people see GM crops as offering new hope in addressing some of the most serious problems that poor people in developing countries face, such as hunger and malnutrition. Others see them as creating unpredictable health and environmental problems and having negative economic repercussions.

The proliferation of domestic biosafety measures has increasingly affected international trade in GM products and led to trade disputes. Although WTO member countries can make their own decisions regarding GM products at the national level, domestic legislation must be WTO-consistent to the extent of not adversely affecting international trade. In this respect, other legal documents, notably the multilateral environmental agreements (MEAs), also play a role. The Cartagena Protocol on Biosafety is the MEA that deals with transboundary movement of GM products. The interaction between the Protocol and the WTO rules adds challenges to an already complex scenario of international trade.

A number of conflicts exist between the Protocol and the WTO rules. These conflicts boil down to the fundamental issue of which rules should prevail when trade disputes related to GM products arise. This issue lies at the heart of the perceived conflict between trade liberalization and environmental protection and was heatedly debated among different interest groups during the negotiation of the Protocol.

The "Miami Group," representing major agricultural exporters including the United States, holds the view that the WTO agreements are the only law applicable in resolving trade disputes over GM products. They fear that non-WTO agreements (such as the Protocol) may give an importing country excuses to limit trade in GM products. Potential loopholes in the Protocol could also allow a country to favor domestic GM production over imports, or GM product imports from some countries over others. The Miami Group thus favors the inclusion in the Protocol of a "savings clause," which could, in effect, save provisions of the WTO agreements from being overcome by those of the Protocol.

The European Union (EU) and most developing countries, on the other hand, argue that the Protocol should be invoked in defense against WTO claims. They support a comprehensive Protocol in light of the unknown effects of GM products on the environment and human health. Because food scandals in recent years have deeply shaken consumer trust in food safety, the EU in particular calls for a strong statement of the precautionary principle as provided in the Protocol.

To resolve its potential conflicts with the WTO provisions, the Protocol contains a "savings clause," which recognizes the importance of existing international agreements. Meanwhile, it calls for the mutually supportive functioning of trade and environmental agreements with a view to achieving sustainable development. The Protocol also provides different procedures and documentation requirements in dealing with different types of living modified organisms (LMOs).

Your assignment is to recommend changes in either the Protocol or the WTO agreements that would mitigate the conflicts between GM commodity trade and environmental protection, taking into account the positions of the key stakeholder groups.

Background

Biotechnology and GM Crops

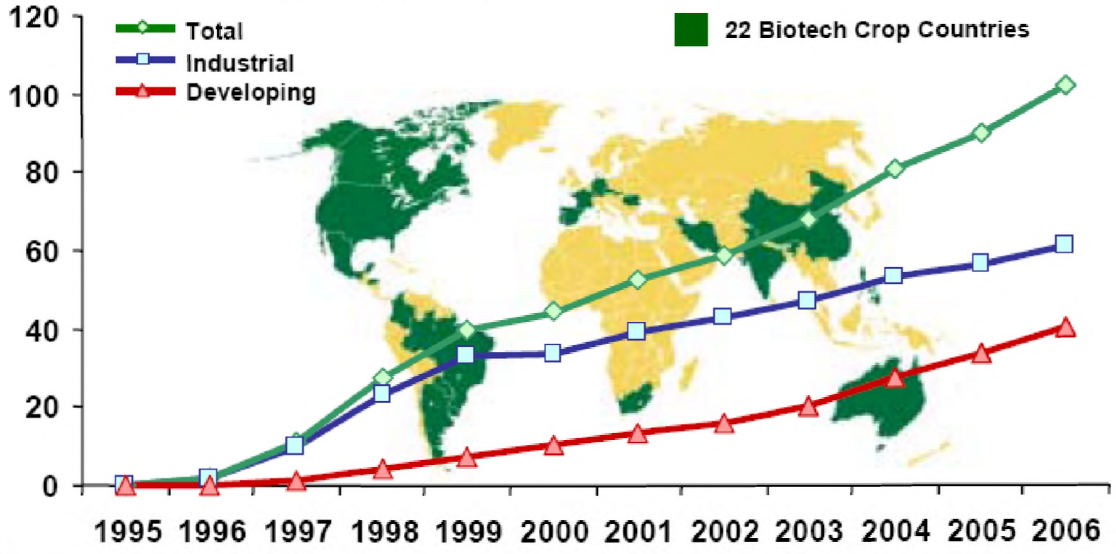
Modern biotechnology has enabled human beings to change the characteristics of living organisms through in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells, and through transfer of genetic information from one organism, across species boundaries, into another organism. Compared with conventional methods of plant and livestock selection and improvement, modern biotechnology can identify desirable traits more quickly and accurately and allows gene transfers beyond the taxonomic family, a process that is impossible with traditional breeding. The applica-

tion of modern biotechnology in sectors such as agriculture and medicine has led to the creation of genetically modified organisms (GMOs) and products derived from them.

Recent advances in biotechnology have significantly enhanced global production of GM agricultural commodities (Figure 1). In 2006 the estimated global GM crop area was more than 100 million hectares, distributed among 22 countries and cultivated by approximately 10.3 million farmers. The United States is by far the largest GM commodity producer by area, with 54.6 million hectares planted in 2006 (Table 1). Industrial countries that are major agricultural exporters, like Australia and Canada, as well as many developing countries have also adopted these technologies. Altogether, developing countries account for more than one-third of total world GM crop area. The largest GM crop-producing developing country is Argentina, with a crop area of 18 million hectares in 2006. Other developing countries, including Brazil, China, India, and Paraguay, have significantly expanded their crop area in recent years. In these countries, maize, soybeans, and cotton have been the major GM crops to date, with active research on other crops under way.

Biotechnological improvements and increases in GM crop production present significant opportunities for developing countries. At present, the perceived benefits of GM crops originate from their input traits, such as better weed and insect control, higher productivity, and more flexible crop management. Thus, the so-called first-generation GM crops benefit mainly farmers, who can obtain higher yields, lower costs, or both. For them, the estimated economic gains amounted to US$5.6 billion in 2005 according to a recent survey (James 2006). Consumers can also benefit from this generation of GM crops primarily through lowered food prices.

Figure 1: Global Area of Biotech Crops, 1995–2006 (million hectares)



Source: James 2006.

Table 1: Area Planted to Biotech Crops, by Country, 2006

Rank	Country	Area (million hectares)	Biotech Crops
1	United States	54.6	Soybean, maize, cotton, canola, squash, papaya, alfalfa
2	Argentina	18.0	Soybean, maize, cotton
3	Brazil	11.5	Soybean, cotton
4	Canada	6.1	Canola, maize, soybean
5	India	3.8	Cotton
6	China	3.5	Cotton
7	Paraguay	2.0	Soybean
8	South Africa	1.4	Maize, soybean, cotton
9	Uruguay	0.4	Soybean, maize
10	Philippines	0.2	Maize
11	Australia	0.2	Cotton
12	Romania	0.1	Soybean
13	Mexico	0.1	Cotton, soybean
14	Spain	0.1	Maize

Note: Table lists the largest 14 countries with growing area greater than 50,000 hectares.
Source: James 2006.

The newly developed second-generation GM crops with applications for output traits (such as vitamin A in golden rice) are expected to benefit consumers even more. A number of GM products are being developed to provide edible vaccines and micronutrients so that they can be delivered to the poor in a more affordable way (Mackenzie and McLean 2004). In addition, expansion in international trade in GM crops can lead to significant welfare gains for developing countries (Anderson and Nielsen 2000). In general, GM crops offer the developing world hope for better food security and better health and nutrition.

Modern biotechnologies and the resulting products have not, however, come without doubt and controversy. There are many fears linked to perceived threats of biotechnology to human, animal, and plant life and health, to the conservation of biodiversity, and to the environment at large. For example, some researchers have raised concerns that genetic modifications might produce foods that contain toxins, trigger allergies, or lead to antibiotic resistance. Others have asserted that GM crops can adversely affect poor economies because they might disrupt small-scale farming systems and encourage monoculture or create a monopolistic market structure in which foreign biotechnology companies can limit poor farmers' access to seeds. Still others have raised ethical and religious concerns that these technologies enable human beings to play God. Perhaps the most serious concerns are those related to the environmental impacts of transgenic plants, which may transmit their genes to other crops or wild plants through pollen dispersal or may evolve into invasive species as their superior traits allow them to out compete other plants. Although there is not yet any definite scientific evidence of harm from GM products to

humans, animals, or the environment, many agree that more extensive research may reveal such risks.[1]

A surge of public concern about GM products has swept from the EU to Asia since the late 1990s, and consumers and environmental groups have insisted on stronger government controls on biotechnology and products created from it. Countries' regulatory approaches, however, differ drastically depending on factors such as their policy awareness, the level of risk they perceive and are willing to accept, their capacity to carry out risk assessments and implement adequate legislation, their perception of the benefits of biotechnology, their concerns about traditional nonbiotechnology industries, their dependence on agricultural exports, their reliance on food aid, and the investments they have already made in the sector (Zarrilli 2005). National legislation on biotechnology and GM products ranges from "limited regulation" in many developing countries (addressing certain aspects of biosafety), to "specific regulation" in the EU (involving pre-marketing approval and mandatory labeling regimes for GM products), to "existing regulation" in the United States (simply applying the instruments developed for conventional foods) (Eggers and Mackenzie 2000).

The Cartagena Protocol

The Cartagena Protocol on Biosafety (hereinafter, the Protocol) adopted on January 29, 2000, is the first binding international agreement dealing with modern biotechnology and GM products.[2] It was negotiated under the auspices of the Convention on Biological Diversity and specifically focused on the transboundary movement of GM products, referred to in the Protocol as "living modified organisms" (LMOs). The LMOs include "all living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health" (Article 4).

The Protocol distinguishes two major categories of LMOs: LMOs for voluntary introduction into the environment, such as seeds for planting, live fish for release, and microorganisms for bioremediation; and LMOs intended for direct use as food or feed or for processing (LMO-FFPs).[3] The latter category contains the large majority of LMOs, including genetically modified crops like soybeans, maize, canola, and cotton. The Protocol does not cover consumer products derived from LMOs, such as corn flakes, flour, and seed oil (Article 3) or pharmaceuticals addressed by other relevant international agreements or organizations (Article 5).

The Protocol defines two major sets of procedures for safely moving LMOs across borders: an Advance Informed Agreement (AIA) procedure for LMOs that are to be intentionally introduced into the environment (Article 7), and a simplified procedure for LMOs that are intended to be used directly as food or feed or for processing (Article 11). Parties to the Protocol must ensure that LMOs are handled, packaged, and transported under safe conditions. Furthermore, LMOs moving across boundaries must be accompanied by documentation specifying, among other things, the identity of the LMOs and a contact point for further information. These requirements are designed to provide importing parties with the information needed to make informed decisions about whether or not to accept LMO imports and how to handle them in a safe manner.

The Protocol stipulates that the importing country must make its decisions in accordance with scientifically sound risk assessments (Article 15). In its annex, the Protocol sets out principles and methodologies on how to conduct a risk assessment. In case of insufficient relevant scientific information and knowledge, the party of import may use precaution in making its decisions about importing (Article 1 and 10). Parties may also take into account, consistent with their international obligations, socioeconomic considerations in reaching decisions on import of LMOs (Article 26).

[1] A few studies, like the one on the monarch butterfly, suggest possible negative impacts of GM products on the environment, but again these findings are controversial.

[2] The Cartagena Protocol is a protocol of the Convention on Biological Diversity (CBD), Article 19.3 of which provides for parties to consider the need for and modalities of a protocol on the safe transfer, handling, and use of LMOs that may have an adverse effect on biodiversity. Negotiation of the Protocol started in 1996 in Aarhus, Denmark, and the draft was completed in 1999 in Cartagena de Indias, Colombia. The final text was adopted in Montreal, Canada, in 2000 (see Schweizer 2000 for an overview of the negotiation process).

[3] The Protocol also defines LMOs in transit and for contained use but does not specify particular procedures for handling them (Article 6).

Parties must also adopt measures for managing any risks identified by the risk assessment, and they must take necessary steps in the event of accidental release of LMOs (Article 16). To facilitate its implementation, the Protocol establishes a Biosafety Clearing-House for Parties to exchange information and contains provisions for capacity building, a financial mechanism, compliance procedures, and requirements for public awareness and participation.

Relevant WTO Rules

The Protocol is not the only international law that deals with transboundary movement of GM products. Two WTO agreements—the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement)—are also relevant to the trade in LMOs defined in the Protocol. The SPS Agreement, with its purpose of protecting human, animal and plant life and health, applies to all the sanitary and phytosanitary measures that may directly or indirectly affect international trade (Article 1). Restrictions on the trade in LMOs in the SPS Agreement include those related to product quarantine, testing, packaging and labeling. The TBT Agreement applies a similar set of technical barriers to the import of LMOs, but with purposes other than environmental or human health protection. Rather, these barriers are imposed to inform consumer or to protect a state's culture or economy.

Pursuant to the SPS Agreement, a member has a right to take sanitary and phytosanitary measures only to the extent necessary to protect human, animal, and plant life or health, and the measures should be based on scientific principles and should not be maintained without sufficient scientific evidence (Article 2). The SPS Agreement also prohibits discrimination, so that SPS measures may not arbitrarily or unjustifiably discriminate between members where identical or similar conditions prevail and may not be applied in a manner that would constitute a disguised restriction on international trade (Article 2). Similarly, the TBT Agreement stipulates that WTO members may not to discriminate against imports through their technical regulations and standards, and technical regulations may not be more trade-restrictive than necessary to fulfill a legitimate objective (Article 2).

The SPS Agreement includes a precautionary clause stating that in cases where relevant scientific evidence is insufficient, a member may "provisionally" adopt sanitary or phytosanitary measures on the basis of available pertinent information (Article 5). In such circumstances, however, a member has a continuing obligation both to obtain the additional information necessary for a more objective assessment of risk and to review the sanitary or phytosanitary measure accordingly within a reasonable period of time.

A Recent GMO Case

In May 2003 Argentina, Canada, and the United States initiated a complaint before the WTO against the EU's restrictive measures on approval and marketing of biotech products (WT/DS291, WT/DS292, and WT/DS293). Regarding EU-level measures, the complainants asserted that the moratorium (both general and product-specific) applied by the EU since October 1998 on the approval of biotech products had restricted their exports of agricultural and food products. The complainants also asserted that a number of individual EU member states maintained national marketing and import bans on biotech products even though those products had already been approved by the EU for import and marketing. The EU moratorium was subsequently lifted, but owing to consumer rejection, the EU food market has remained closed to genetically modified organisms (GMOs), and several member states have kept their national bans in place.

The final ruling issued on September 29, 2006, concluded that general and product-specific moratoria had led to an "undue delay" in the completion of the EU's approval procedures for biotech products, thus breaching the EU's obligations under the WTO's SPS Agreement (WT/DS291/R, WT/DS292/R, and WT/DS293/R). The panel requested the EU to bring the moratoria in line with the provisions of the SPS Agreement "if, and to the extent that" these measures have "not already ceased to exist." The panel also rejected the EU's defense of the national-level bans as precautionary measures, arguing that sufficient scientific evidence was in fact available to carry out an

adequate risk assessment.[4] The panel report called on the EU to bring the measures in conformity with WTO rules. This conformity would imply revoking the national-level bans or providing an SPS Agreement–compliant risk assessment justifying the measures.

Farmers' groups and biotechnology industries in the three complainant countries welcomed the panel's ruling. They described it as trade facilitating and favoring science-based policy-making over the unjustified, anti-biotech policies. The EU appeared indifferent about the ruling, suggesting that it would have few implications for its current rules and procedures since the moratoria in the EU had already been lifted before the ruling. Several civil society groups, including Friends of the Earth Europe (FOEE), the Institute for Agricultural Trade Policy (IATP), and Greenpeace, sharply criticized the panel's decision for undermining international environmental law and the precautionary principles.

These groups were also concerned that the WTO dispute settlement process was biased towards the will of powerful members. In the GMO case, the panel refused to take into account the Cartagena Protocol or the Convention on Biological Diversity because the parties to the dispute were not also parties to the agreements.[5] Yet, in the famous "shrimp-turtle" case (WT/DS58/AB/R), the panel did refer to international environmental agreements that the United States had not signed in support of the U.S. argument for restricting its shrimp trade.[6] Following the GMO case ruling, many environmentalists concluded that the WTO should no longer be the appropriate institution to deal with environment-related trade issues and that the international community should find an alternative mechanism for dispute settlement before another case occurs (Greenpeace 2006)

Policy Issues

Potential Conflicts between the Protocol and WTO Rules

There are two major potential sources of conflicts between the Protocol and the WTO rules (Safrin 2002). First, both the Protocol and the relevant WTO agreements contain "precautionary language" that allows a party to impose import bans or other restrictions on LMOs when there is a lack of scientific certainty about the extent of their potential adverse effects (that is, when proper risk assessment is not possible). Unlike the WTO Agreements, however, the Protocol does not require that precautionary measures be adopted "provisionally." In other words, the Protocol does not expressly require a party that takes precautionary measures in the face of scientific uncertainty to seek to obtain the additional information necessary for a more objective assessment of risk and to review those measures within a reasonable period of time, as required by Article 5 of the SPS Agreement. Rather, the Protocol only requires that the precautionary measures be taken "as appropriate" (Article 10) and that a review be conducted only at the request of the party of export (Article 12). The wording in the Protocol tends to give a country attempting to avoid its WTO obligations ample room to argue for the legitimacy of its restrictive trade measures on LMOs.

Second, the Protocol contains a number of discretionary provisions that permit a party to take discriminatory actions that could violate the party's WTO obligations. For example, Articles 10 and 11 of the Protocol provide that a party of import shall make a decision on the import of different LMOs but does not compel a particular decisional outcome. In addition, parties can proceed according to their own domestic regulatory framework (Article 9) or adopt simplified procedures (Article 13) as long as these are consistent with the objectives of the Protocol. Moreover, Article 14 of the Protocol permits parties to enter into bilateral and multilateral agreements that would govern the trade in covered LMOs, in lieu of the Protocol itself, "provided that such agreements and arrangements

[4] Article 5.7 of the SPS Agreement only permits WTO members to "provisionally" adopt SPS measures in the absence of sufficient evidence.

[5] The United States is not a party to the Convention on Biological Diversity or the Protocol. Argentina and Canada are parties to the Convention but not to the Protocol.

[6] Despite the quotation of international environmental laws for defending its trade measures, the United States still lost the case because it failed to apply the most-favored nation (MFN) principle. The United States provided countries in the Western Hemisphere—mainly in the Caribbean—with technical and financial assistance and longer transition periods for their fishers to start using turtle-excluder devices (TEDs). It did not, however, give the same advantages to the four Southeast Asian countries (India, Malaysia, Pakistan, and Thailand) that filed the complaint with the WTO.

do not result in a lower level of protection than provided for by the Protocol." If a party to both the Protocol and the WTO agreements allows the import of a given LMO from one WTO member but not from another, permits the domestic production but not the import of a given LMO, or enters into a regional agreement exempting imports of LMOs from countries in that region from regulatory scrutiny, while it continued to subject the import of like LMOs from other countries to regulatory review, its action would be allowed by the Protocol but would clearly violate the WTO agreements.

Protocol or WTO Agreements?

Given the potential conflicts between the Protocol and WTO rules, one fundamental question is how to deal with the relationship between the two: when trade disputes on GM products arise, should the requirements of the Protocol or those of the WTO agreements prevail? This issue lies at the heart of the perceived conflict between trade liberalization and environmental protection. Some (such as environmentalists) have suggested that the WTO should stand back from biotechnology and leave such decisions to multilateral environmental agreements (MEAs) like the Protocol. But since biotechnology has been increasingly linked to trade, it is likely that in the event of a dispute, major exporters would favor the WTO rules.

It is also a legally complicated issue. According to the Vienna Convention on the Law of Treaties (Article 30), the requirement is that a later agreement would prevail when two successive agreements relating to the same subject matter are incompatible. The same Convention stipulates that when the later treaty includes only some of the parties to the earlier treaty, the later treaty prevails only with respect to those who are parties to both agreements. Otherwise the earlier treaty applies.[7] For parties to both agreements, the presumption that the later agreement prevail over an earlier one can be overcome if the later explicitly states that it "is not to be considered as incompatible with an earlier agreement" (as stated in Article 30 of Vienna Convention on the Law of Treaties). When an agreement contains such a statement, the terms of the earlier agreement prevail over incompatible terms of a later agreement. Such a statement is commonly referred to as a savings clause because, in effect, it saves provisions of the earlier agreement from being overcome by incompatible terms in a later agreement.

Whether or not to include a "savings clause" is one of the most debated issues in the negotiations of the Protocol. Major agricultural exporters like the United States strongly support the inclusion of this clause. They fear that without such a clause, countries might make arbitrary decisions restricting their import of LMOs without scientific evidence by simply referring to the Protocol and arguing in the vague name of "precaution," or they might favor domestic LMO production over imports or favor LMO imports from some countries over others through their unilateral, bilateral, or regional trade arrangements. Given the uneven development of biotechnology across nations, it would not be surprising for some countries to use unfettered bans on the import of LMOs to allow their nascent domestic biotechnology industries to catch up with industry leaders and at the same time protect their nonbiotechnology industries from competition with biotechnology ones. A savings clause in the Protocol would render these acts subject to WTO disciplines.

The EU strongly objected to including a savings clause in the Protocol. Ostensibly, they argue that the provisions in the Protocol are not expected to modify other agreements and thus need not expressly so state. The real reason for the EU's rejection of the saving clause, however, is that, in the face of a new technology and novel products derived from it, they want the Protocol to give them enough flexibility to protect environment and human health without facing challenges from the WTO disciplines. The EU's position on the savings clause grew even stronger following its loss in the WTO beef hormone case against Canada and the United States.[8] As recent food scandals have deeply shaken consume trust in food safety in the region, the EU needed stronger precautionary language in

[7] According to this explanation, since the United States is not a party to the Biodiversity Convention or the Protocol, earlier agreements (that is, the WTO agreements) would prevail should an LMO-related trade dispute arise between the United States and other countries.

[8] The hormone case related to an EU ban on bovine meat and meat products from cattle treated with growth hormones. Complainants were Canada (WT/DS48) and the United States (WT/DS26).

the Protocol so that they could tighten domestic regulations to pacify its suspicious and sometimes angry public.

The Scope of the Protocol

Besides its relationship with the WTO rules, there are also controversies over the Protocol itself. One contentious issue is what kind of LMOs the Protocol should cover. Given the ever-increasing variety and production of GM products and their growing importance in international trade, the product scope of the Protocol is crucial for identifying the portions of trade that will be regulated. Some countries demanded strong notification procedures giving importing countries extensive rights to refuse the import of a full range of GM products, including GM commodities and products derived from them. Other countries were concerned that including all GM products within the purview of the Protocol would render international trade in agricultural commodities unworkable. They argued that lengthy approval procedures (like the AIA procedure) are not justified for commodities, which are not intended to be released into the environment and hence would not affect the conservation and sustainable use of biological diversity.

Another issue is related to whether and how LMOs should be documented. The Protocol does not address domestic food-labeling requirements for consumer information but does establish standards for documentation accompanying LMOs that are moving across international borders. Whether the documentation provisions should apply to all LMOs or a portion of them has been actively debated. Because clear identification of each shipment is a key element for the traceability of GMOs and for the feasibility of domestic labeling regimes, the EU insisted on such requirements for all LMOs. The United States, however, objected to specific identification requirements for all LMOs because doing so requires identity preservation all along the supply chain, which will significantly increase costs. In addition, labeling would have an adverse impact on consumer choice because consumers would perceive the labeling as an indication that GM foods pose potential health and environmental risks (Runge and Jackson 2000).

Human health and economic issues are also debated in the negotiation of the Protocol. Specifically, these questions include whether and how the Protocol should take into account human health in addition to the environmental impact of LMOs; whether and how import bans or other restrictions should be based on socioeconomic considerations in addition to environmental ones; and whether and how the Protocol can create a liability and redress mechanism for any economic loss resulting from the transboundary movements of LMOs. The question of "whether" had more or less been settled by the time of the Montreal meeting: most countries were in favor of the inclusion of provisions on human health and economic issues because they believe that if these provisions were eventually exercised, then by definition there must have been a need for them and if they were never exercised, there would have been no harm in including them. The questions of "how" were largely unsolved even after the adoption of the Protocol.

Stakeholders

The Miami Group

The "Miami Group" represents some major exporters of GM seed and crops and countries with the world's most advanced biotechnology industries.[9] The group was led by the United States and also included Argentina, Australia, Canada, Chile, and Uruguay. It is the group's common interest to seek free trade in GM products and to preclude the use of environmental protection as a disguised trade barrier. In the negotiation of the Protocol, the Miami Group insisted that 1) LMO–FFPs be kept outside the scope of the Protocol's AIA procedure; 2) a "savings clause" be included in the Protocol; 3) decisions on trade measures be based on risk assessments and "sound science"; and 4) the use of the precautionary principle and socioeconomic considerations in decision making be limited. Because the EU had resorted to the precautionary principle in defending the beef hormone case and in blocking Canadian and U.S. requests for regulatory approvals of certain LMOs, the Miami Group was suspicious about whether the EU would use the Protocol to further justify its WTO-inconsistent trade measures.

[9] The description of stakeholders in this section is based on Cosbey and Burgiel (2000).

The Like-Minded Group and the EU

The "Like-Minded Group" is a developing country negotiating coalition (excluding the three developing countries in the Miami Group). Countries in this group range from those with no domestic regulatory structures, legislation, or biotechnology industries to those with fairly developed systems. The Like-Mined Group generally perceived themselves as importers rather than exporters of GM products, and thus, they supported a strong Protocol, in light of the unknown effects of LMOs on the environment and human health as a result of their inadequate regulatory or institutional capacity. During the negation, the Like-Minded Group called for the Protocol to 1) cover a comprehensive scope of organisms, including LMO–FFPs; 2) take into account human health and socioeconomic consider ations; 3) require comprehensive identification and documentation; and 4) include a strong statement of the precautionary principle and a concrete text on liability and redress.

Countries in the EU negotiated as a common bloc because of their shared interests. Similar to the Like-Mined Group, the EU also demanded a strong Protocol. As most of the EU countries had had well-established food safety regulatory systems prior to the adoption of the Protocol, the pressure for a more protective international law came primarily from the concerned public as a result of recent food safety crises. Specifically, the EU had pushed for 1) inclusion of LMO-FFPs but with possible special treatment; 2) identification and documentation for all LMOs; 3) exclusion of a savings clause;[10] and 4) strong language on the precautionary principle.

The Compromise Group and Central and Eastern European (CEE) Group

The Compromise Group (Japan, Mexico, Norway, Singapore, South Korea, Switzerland, and, at the Montreal meeting, New Zealand) and CEE Group emerged during the final days of the Cartagena negotiations with the specific intent to bridge the major gaps between the other negotiating groups by developing compromise positions and alternative formulations. These two groups represented the interests of a diverse set of countries and provided additional impetus for addressing the range of concerns of both developed and developing countries.

Policy Options

Reconciliation—A Savings Clause

To resolve its potential conflicts with the WTO provisions, the Preamble of the Protocol provides a sort of "savings clause," which reads as follows:

> *Recognizing* that trade and environment agreements should be mutually supportive with a view to achieving sustainable development,
>
> *Emphasizing* that this Protocol shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreements,
>
> *Understanding* that the above recital is not intended to subordinate this Protocol to other international agreements, . . .

This language, which was adapted from the Preamble to the 1998 Rotterdam Convention, does not express an explicit rule for determining which agreement or agreements to use in case of disputes. In particular, the ambiguity leaves unclear its relationship with the WTO agreements. Some find that the Preamble, in effect, contains no savings clause because it "is not intended to subordinate this Protocol to other international agreements." Therefore, should disputes on trade in LMOs arise, the Protocol would be the applicable law, not the WTO agreements.

Others argue that the Preamble effectively preserved parties' rights and obligations under other agreements since the Protocol "should not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreements." Under this view, rules of the WTO or other customary international law, environmental and human rights conventions, or regional and bilateral agreements to which disputing parties are bound could all be invoked.

This issue is further complicated by the fact that major GMO producers and exporters such as the United States are still nonparties to the Convention

[10] The EU instead supported the inclusion of a nondiscrimination provision, stating that countries would not discriminate among domestically produced LMOs and those being imported.

on Biological Diversity and to the Protocol. In this situation, the WTO agreements would more likely be the law applicable in WTO dispute resolution, because if the WTO panel or the Appellate Body base their judgment on a non-WTO provision (such as the Protocol), the defendant may decline jurisdiction by arguing that such a provision does not apply to non-parties. The recent U.S.-EU GMO dispute settlement is a case in point.

To better avoid possible conflicts, WTO legal documents need to develop ways of referring to the Protocol, to open a door toward "cross-fertilization of international law" and "co-operative fact-finding" (Eggers and Mackenzie 2000, 541). In practice, a WTO panel should seek various ways to combine the use of WTO rules with that of the provisions in the Protocol. For example, in a GMO dispute on a precautionary measure, the WTO panel, when interpreting the precautionary language of the Protocol, could require the party of import to implement restrictive trade measures "provisionally" by referring to Article 5.7 of the SPS Agreement. In addition, the panel could take account of the "fact-finding" under the Protocol when determining whether scientific evidence is insufficient or whether a provisional measure is based on available pertinent information, as required by the SPS Agreement.[11]

Precautionary Action

The Protocol reserves the right of the parties to make decisions on imports on the basis of the precautionary principle in relation to both LMOs to be introduced into the environment and LMO-FFPs. It states that lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of potential adverse effects of an LMO shall not prevent a party of import from making a decision with regard to the import of that LMO in order to avoid or minimize such potential adverse effects.

Although the Protocol endorses the right of parties to make a precautionary decision to avoid or minimize the potential adverse effects of LMOs on biodiversity, countries should refrain from abusing it to the extent that normal trade is unnecessarily restricted. The most appropriate precautionary action should be a function of the level of identified harm, the extent of uncertainty, and the availability of alternative technologies, as well as the agricultural, social, environmental, and economic goals of individual parties. Possible forms of precautionary action range from bans on new LMOs to phasing out of existing LMOs, moratoria on future development and commercialization, and conditional approvals with monitoring.

Different Treatments

Although the Protocol *prima facie* covers all LMOs that may have adverse effects on the conservation and sustainable use of biological diversity, it provides different procedures in dealing with different types of LMOs. The AIA procedure is confined to LMOs for intentional introduction into the environment of the party of import. It does not apply to LMO-FFPs. For example, if seeds of GM maize are exported for the purpose of field trials, the party of import needs to be notified with sufficient information by the exporter and the shipment should be approved in advance as required by the AIA. However, if the GM maize is intended for use as food and animal feed, the exporter would not need to obey the strict notification requirements established by the AIA.

For the LMO-FFPs, which make up the bulk of trade in GM products, a more simplified procedure is necessary. As outlined in Article 11, exporters are obliged only to provide documentation indicating that the shipment "may contain LMOs" and is not intended for intentional introduction into the environment. This simple documentation requirement would render trade in GMOs more operational, but add little to the traceability of GMOs and the feasibility of domestic labeling.

Human Health and Socioeconomic Considerations

In addition to the environmental impacts of LMOs, the Protocol was able to take into account human health risks, which were confined to those originating from biodiversity impacts and direct contact (allergenic reactions), rather than risks on food safety grounds, which are expected to be addressed

[11] As shown earlier, the Protocol does not require a trade restriction to be adopted "provisionally" as required by the SPS Agreement. However, the Protocol requires the exporting country to provide scientific evidence and to carry out risk assessment. Annex III of the Protocol contains more specific definitions and guidelines on risk assessment than the SPS Agreement.

in the SPS Agreement. Article 26 allows parties to take socioeconomic considerations into account when reaching a decision on whether to import an LMO, but only insofar as they arise from the impact of LMOs on the conservation and sustainable use of biodiversity and the value of biodiversity to indigenous and local communities. Additionally, when taking such socioeconomic considerations into account, a party must act consistently with its other international obligations (Article 26).

The set of human health and socioeconomic considerations is of limited scope and represents a compromise between parties in the decision making on LMO imports. The considerations as stated in the Protocol are only confined to those related to direct impacts or losses. In reality, however, indirect impacts and losses may be more significant. Given the newness and scientific uncertainty of biotechnology and the fact that the population, economy and the environment in poor developing countries are vulnerable to adverse LMO impacts, a more broadly defined human health and socioeconomic considerations would benefit them better.

Liability and Redress

It is important to include a liability and redress provision in the Protocol so that parties of export can be held accountable when LMOs cause damages to the parties of import. Despite the importance of the issue, its treatment in the Protocol was postponed. An enabling clause in Article 27 of the Protocol states that "the Conference of the Parties to this Protocol shall, at their first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of LMOs" and "shall endeavor to complete this process within four years." Accordingly, the first meeting of the Conference of the Parties serving as the meeting of the Parties to the Protocol (COP-MOP) held in 2004 in Kuala Lumpur, Malaysia, established an Open-ended Ad Hoc Working Group of Legal and Technical Experts on Liability and Redress to fulfill the mandate under Article 27.

Major tasks undertaken by the working group to date include reviewing the information relating to liability and redress for damage resulting from transboundary movements of LMOs; analyzing general issues relating to the potential or actual damage scenarios and the application of international rules and procedures on liability and redress to the damage scenarios; and elaborating options for elements of rules and procedures on liability and redress, including definition and nature of damage, valuation of damage to biodiversity and to human health, threshold of damage, causation, channeling of liability, roles of parties of import and export, standard of liability, mechanisms of financial security, and right to bring claims. The working group is scheduled to report on its activities to the COP-MOP and complete its work in 2007.

Assignment

Your assignment is to recommend changes in either the Protocol or the WTO agreements that would mitigate the conflicts between GM commodity trade and environmental protection, taking into account the positions of the key stakeholder groups.

Additional Readings

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