SPS IN AGRICULTURAL TRADE:
ISSUES AND OPTIONS FOR A RESEARCH AGENDA¹

PRELIMINARY DRAFT

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Summary

This paper explores two important and inter-related perspectives for a concrete research agenda that addresses issues and methodologies to evaluate the impacts of sanitary and phytosanitary (SPS) requirements upon agricultural trade. One deals with the extension of the trade agreement while the other considers possible changes in trade patterns between developed and developing countries. The impacts of SPS measures introduced by developed countries upon developing countries’ trade are explored, together with the concerns raised about the current formulation of the SPS Agreement of the WTO. In addition, the implementation of sanitary and phytosanitary requirements to facilitate trade is compared with respect to its advantages under a multilateral agreement versus a continental agreement, such as the FTAA. It is concluded that information is a fundamental asset of the SPS Agreement, but it also became one of its major constraints. There is a need for improvement in the operational structure of information within the Agreement, which would substantially reduce great part of its current costs, particularly for developing countries. Most developing countries do not present the required financial, human, and technical resources to explore the advantages of the Agreement. It is also possible to indicate advantages of using the FTAA negotiations to improve the functioning of the SPS Agreement, particularly with respect to information management.

Keywords: SPS Agreement, WTO, FTAA, agricultural trade, developing countries
Introduction

Sanitary and phytosanitary measures designed to protect living beings such as humans, animals and plants, have been increasingly important to international trade of food, agricultural, and livestock products. These measures have been used to impede the dissemination of pests or diseases among animals and plants, and to ensure that food is safe for consumers. Due to the complexities of SPS management in a fully integrated world trade system, however, it became necessary to regulate the multilateral trade context.

The implementation of these regulations has not facilitated agricultural trade liberalization as expected. In principle, the regulations are delineated to facilitate production and exchange, reduce transactions costs, guarantee quality, and achieve the provision of public goods. However, there have been conflicts between domestic food regulations and the trade system. In addition, it has been observed that the regulations may also work, by design or circumstance, to restrain competition (Maskus, Wilson and Otsuki; 2000).

Concurrent with a reduction in tariff and quantitative restrictions upon agricultural trade through the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), there has been an increasing concern that sanitary and phytosanitary measures are taking their place as trade barriers (Walker, 1999; Miranda 2001). The SPS Agreement of the WTO has been created to distinguish between two functions; i.e. protection and protectionism, and to impede the use of the latter.

There have been difficulties to effectively impede the use of technical regulations as a protectionist device to trade. Several authors have explored this perspective particularly in the case when these impede trade by developing countries (Henson et al., 1999; Henson and Loader; 2001).

Despite having been developed and implemented in a multilateral trade framework, the topic has gained interest in regional and continental trade negotiations, such as the Free Trade Area of the Americas (FTAA), where the
liberalization of agricultural trade is a fundamental issue. Besides the United States and Canada, various large and middle-income countries with great agricultural and food export potential like Mexico, Chile, Argentina and Brazil, have shown to believe in the agreement and work hard either to explore its current opportunities as well as to improve it. In fact, despite of their income status, countries have a high demand for an effective agreement that hampers the use of sanitary and phytosanitary regulations as trade protectionist devices against their exports. However, an important aspect that must be dealt in the FTAA negotiations is whether the Sanitary and Phytosanitary Agreement of the WTO may favor trade for developed countries in a greater extent than for developing countries, as has been explored by the literature. Although there seems to be evidence that there are disparities between developing and developed countries with respect to the ability (and willingness) to comply with the WTO/SPS Agreement, it is an issue that deserves further evaluation, and that should concern those responsible for the policy arrangements.

There is an increasing need to assess and understand the nature of current trade problems, how they are related to national and multilateral regulatory policies and instruments, and whether there is need to improve the cohesion between global and national regulatory frameworks. Evaluations of this nature usually lead to an understanding of a broader picture of trade developments, which is fundamental to design policies and research strategies.

Therefore, the organization of a research agenda to identify major issues and methodological approaches to evaluate the impacts of SPS measures upon agricultural trade is important, not only for national policymakers but mostly for international institutions to understand current developments and planning into the future.

1. The Agreement on Sanitary and Phytosanitary Measures
The SPS Agreement of the WTO resulted from the upsurge of an expressive number of trade disputes, particularly between developed countries, that could not be resolved under the existent GATT “Standards Code” or through the prevailing GATT dispute settlement procedures. Concerns were expressed about the effectiveness of these arrangements to prevent the use of technical measures as barriers to trade, since they were not developed for that purpose (Victor, 1999).

During the Uruguay Round of the GATT, the SPS Agreement was established to address the emerging debate over the use of standards in international trade of food and agricultural products. As presented by Roberts (1998), this Agreement established international rules on how Member countries should apply SPS measures. The Agreement recognizes the countries’ rights to protect themselves from sanitary and phytosanitary risks. However, it distinguishes this protection from protectionism, defined as trade barriers over and above what is required to meet desired protection levels. The SPS Agreement covers all measures whose purpose is to protect: human or animal health from food-borne risks; human health from animal or plant-carried diseases; animals and plants from pests or diseases, whether or not these are technical requirements.

There are two general provisions to be followed under the SPS/WTO Agreement: (i) the principle of non-discrimination, as described in Article 2.3 of the Agreement, and (ii) the principle of scientific justification, presented in Article 2.2 of the Agreement. The first is equivalent to the GATT basic principle of the most favorable nation (MFN). It establishes that a measure shall not discriminate against or between trading partners where identical or similar conditions prevail, or when these are more than necessary to reach its goal of sanitary and phytosanitary protection. According to the second principle, SPS measures cannot be maintained without sufficient scientific evidence (Article 2.2).

The SPS Agreement also contains a number of instruments that can be used to achieve its goal and sustain the general principles, which are discussed below.
Risk assessment

The SPS Agreement commits Members to apply a measure only when it is supported by a risk assessment, such that scientific justification is provided to sustain that the measure required is necessary to assure the aimed level of protection. This has been stipulated in Articles 5.1 - 5.3 of the Agreement. This same author argued that the Agreement is not very explicit as to what distinguishes a valid risk assessment under the auspices of the Agreement from assessments not judged valid. However, judging by subsequent Panel and Appellate Body reports, the required risk assessments have been very stringent. It is important to observe, though, that a risk assessment is a necessary but not sufficient condition for a SPS measure to be in conformity with the Agreement.

In order to comply with the non-discrimination provision, a measure must also be the least restrictive to trade among all the available alternatives that provide a desired protection level. Article 5.5 states that each Member is obliged to avoid arbitrary or unjustifiable distinctions in the levels of protection considered to be appropriate, if these distinctions would result in a disguised restriction on international trade, in order to achieve the objective of consistency in the application of SPS measures (WTO, 1994\(^2\), cited by Roberts, 1998).

Article 5.7 allows members to adopt temporary measures based on "available pertinent information" to mitigate unfamiliar risks while collecting additional information that would permit an objective risk assessment and re-evaluation of the temporary risk-management measure (WTO, 1994\(^1\), cited by Roberts, 1998). In this circumstance, the measure must be reviewed after "a reasonable period of time".

Harmonization

Harmonization may be one of the most important tools used in the SPS Agreement to achieve its objectives. Before its establishment, various SPS measures were already subject to Harmonization by international organizations for various years. The most important of such organizations are the Codex Alimentarius (Codex) for food safety measures, the International Organization of Epizootics (OIE) for animal health measures, and the International Plant Protection Convention (IPPC) for plant health measures.

Under the Agreement, Member countries are encouraged to base their SPS measures on international standards (if they exist) promulgated by the Codex, OIE and IPPC (Article 3.1). They may choose, however, to design their own measures and to provide their own scientific evidence. In this circumstance the country is required to produce its own risk assessment and assure that the measure is non-discriminatory (Article 3.3). When the SPS measure adopted conforms to an internationally agreed standard, it is then consistent with the SPS Agreement (Article 3.2). When this is the case, the risk assessment obligation is fulfilled and the measure is considered non-discriminatory. Therefore, it is important to observe, that although the international standards are not mandatory, as explained in Article 3.3, their use automatically grants immunity from legal proceedings under WTO law.

The importance of harmonization has been related, in great part, to the frequent complaints presented by exporters about divergent SPS measures that substantially increase the transaction costs of trade. The use of this instrument to facilitate trade has not been as intensive as desired, since it has been subject to much confusion due to unclear phrasing of Article 3.

Equivalence
Article 4 of the SPS Agreement encourages the use of equivalence and mutual recognition Agreements. The Agreement recognizes that different measures are equivalent, if they can yield the same level of sanitary and phytosanitary protection. Therefore, a country must allow imports from an exporting nation with different SPS measures from its own if the exporter demonstrates that it provides the level of protection required by the importer.

The equivalence article has been indicated as another example of the restrictions related to the use of harmonization. It has been considered that strict harmonization is not always desirable in economic terms. In general, Member countries have different capabilities of setting and enforcing different types of measures and the outcome of the regulatory process is more important than its form. Equivalence has assumed a great importance, though, since it can proportionate market access without requiring actual harmonization and sustaining a Member’s rights to employ measures to protect human, animal or plant health.

Regionalization

The Article 6 of the SPS Agreement regarding Regionalization established that SPS measures must be applied in accordance with the specific problems of the areas the products concerned originate. It has been common to impede a country's exports when a particular SPS problem is detected, even when the problem is isolated to specific regions of the country. Article 6 indicates the regionalization instrument of the SPS Agreement recognizes that pest - or disease - free areas are largely determined by geographic and other ecological conditions, and not by political boundaries, such that it may be part of one country, or all, or part of several countries. Import protocols must therefore be based on a risk assessment that evaluates the claims by exporting countries that certain regions are free of quarantine diseases or pests, or that the prevalence of quarantine pests and diseases is low (GATT, 1994, cited by Roberts, 1998).
This is appropriate when a country can demonstrate that if not all of its territory; at least some regions are free from a hazard, such that SPS measures that are intended to block imports of products from the whole country can be misleading. In this circumstance, the measure may be circumvented, while the introduction of the hazard in the importing country will still be impeded (Victor, 2000).

In the case of meat exports, for instance, a major trade barrier has been the occurrence of foot-and-mouth disease (FMD) in many developing countries. Regionalization has allowed the division of Brazilian regions into Cattle Circuits, as a formal process to determine which regions is not affected by FMD, both for swine and for cattle. This allowed exports from Brazilian FMD-free areas to other countries free from FMD, such as European countries (Miranda, 2001). Exports from countries such as Argentina and Uruguay have also been allowed due to a classification of different regions with respect to FMD occurrence (Roberts, 1998).

**Transparency and Notifications**

The lack of transparency has been one of the major problems of the various SPS measures, considering that it is not only costly, but also extremely time-consuming for private and public sectors to learn and keep an updated review of all SPS measures of its foreign trade partners. If the measures are subject to frequent changes, the costs of exports subject to SPS measures are increased, and this may become an easy way to practice disguised protectionism. More generally, when information about the SPS measures adopted by Member countries is not easy is difficult to obtain, it becomes harder, if not impossible to distinguish legitimate from illegitimate protection. This can be aggravated if the measures' relations to scientific evidence are also not clearly specified.

The SPS Agreement outlines the necessary infrastructure to stimulate transparency, as described by the WTO (www.wto.org). The Agreement includes a notification procedure through which Member countries are obliged to divulge any change in their SPS regulations, including new measures or modification of existing
ones, whenever it differs from an international standard and if it has the potential to affect trade. Therefore, these notifications are a useful indicator to evaluate progress towards increasing transparency induced by the SPS Agreement.

Once notified, the WTO Secretariat is responsible for circulating the notification to other WTO Members. A Member is obliged to establish a notification point, which becomes responsible for notifying future changes in SPS measures, following the same procedure described above. Therefore, governments are required to submit the notification in advance of the implementation of a proposed new regulation, to provide trading partners an opportunity to comment.

In addition, all Member countries had to establish and maintain Enquiry Points, such that information about the sanitary and phytosanitary rules in force could attend any request for information about the countries’ sanitary and phytosanitary measures. The information that must be disclosed includes details upon the rules themselves, their control mechanisms, and the risks assessment procedures on which these are based.

**SPS Committee**

The effectiveness of the stated provisions requires adequate mechanisms and organization structure to ensure the implementation and effectiveness of the SPS Agreement. For that purpose, a Committee on Sanitary and Phytosanitary Measures (SPS Committee) was created to deal with the establishment and control of SPS measures. The Committee includes representatives of all Member countries and it meets three to four times a year. At each meeting both individual members’ SPS measures as well as general issues are discussed. Members take the opportunity to gather information about their trading partners’ SPS measures and try to solve disagreements bilaterally, avoiding formalities involved in the dispute settlement system.
Dispute Settlement and Specific Trade Concerns

To initiate a dispute settlement a Member requests consultation with another member concerning the trade issue. If this consultation does not lead to a solution the member request the establishment of a dispute panel. The panel investigates the complaint and reports on the trade conflict. The dispute can also be settled informally, in order to avoid complex formal procedures of the settlement system. Disagreements are presented and discussed at the regular meetings of the SPS Committee, in the form of Specific Trade Concerns. These discussions commonly lead to informal agreements, such that the complex settlement system can be avoided.

Many of the trade controversies within Member countries have been brought to the SPS Committee meetings, where the discussion of specific trade concerns has taken place. As a progressive number of these trade concerns were solved in these meetings, the Members requested their documentation by the Secretariat.

Complaints that cannot be solved informally are filed with the Dispute Settlement Body, which establishes a Panel to investigate and report whether or not the SPS measure is in conformity with the SPS Agreement.

The Panel report can be challenged at the Appellate Body that consists of experts of international law. The Appellate Body decisions are final and must be implemented otherwise punitive actions may follow.

2. Assessment of the SPS Agreement of the WTO
This section presents an overview of issues selected in the literature to compose a research agenda for the SPS issue, which is the basic purpose of this paper.

First, a review of issues that have been elected to provide a further understanding of the implications and effects of the establishment of the SPS Agreement of the WTO is presented. Two major aspects are stressed in this discussion: the instruments that have been evaluated with respect to its potential importance to attain the objectives and major principles of the SPS Agreement. In addition, articles that discuss whether or not sanitary and phytosanitary requirements may be applied as barriers to agricultural exports from developing countries are presented and discussed. This is followed by a review of methodological approaches that have been suggested and used to assess the impact of the SPS Agreement of the WTO.

2.1. Instruments and Objectives of the SPS Agreement – an analytical review

The first studies that focused the SPS Agreement were mostly related to its effectiveness in organizing and harmonizing rules on human, animal, plant health and other sanitary and phytosanitary issues. The Agreement’s principles have been discussed together with the benefits and difficulties of their implementation. The benefits provided by the establishment of the Agreement have been evaluated, based on its provisions and instruments, with a particular emphasis on equivalence and harmonization. The major restrictions to its implementation have been related to risk assessment procedures.

Most analyses have also discussed how the provisions should be implemented (Stanton, 1999; Wyerbrock & Xia 2000; and Victor, 2000). Stanton (1999) defends that the purpose of the SPS Agreement is to promote international trade, by restricting the use of SPS measures as disguised barriers to trade.
Walker (1999) observed that trade and growth for food exporting countries is directly tied to a successfully implementation of the articles contained in the Agreement. The author affirmed that: “Countries desiring to export, will adopt new methods to identify hazards and monitor critical points along the food chain. The more successful countries will forge new public and private roles and partnerships. The modernization of national food safety systems consistent with the World Trade Organization (WTO) agreement on Sanitary and Phytosanitary Measures (SPS) will form one of the greatest obstacles to overcome”.

Victor (2000) indicated that an examination of the SPS Agreement effects upon the measures employed by the various countries must focus two basic outcomes, which include: an appraisal about how the international standards are established; and what exceptions allow a country to deviate from the international standards. He stressed that all the disputes involving the SPS Agreement have focused on how to interpret the exceptions. However, lack of information is still a critical restriction to the implementation of the SPS Agreement.

The execution of the SPS Agreement has been recognized as a difficult task particularly for developing countries. In fact, one provision of the SPS Agreement is the commitment by Members to facilitate access of technical assistance to developing countries, either through the relevant international organizations or bilaterally (Article 9). Walker (1999) comments that assistance in the form of risk assessment training or loans to developing countries has been provided. However, there is no evidence of the implementation of any systematic or comprehensive approach to assist developing countries to understand or proceed with structural changes required to benefit from the SPS agreement.

As already mentioned, Notifications should assure transparency in the adoption of SPS Agreement measures, which is considered, in turn, one of the Agreement’s most important instruments. There have been many problems, however, in the Notification’s implementation and evaluation process. One of the major restrictions indicated by the literature is that to comply with the Notification procedure, Member-countries need to maintain a well-trained staff to continuously analyze
whether its trade is affected by the measures introduced by their partners while also informing relevant changes implemented by the country. Although fundamental, this is difficult to implement in most developing countries, particularly due to its cost. Therefore, the usual procedure has been to conduct, from time to time, a broad regulatory review to evaluate if the countries and their trading partner are complying with the Agreement’s rules. This has certainly restricted the expected effect of the Agreement, as a catalyst for regulatory reforms and trade enhancement.

In addition, there are indications that countries tend to under-report Notifications. They notify only changes that are expected to impact trade and tend to consider unnecessary to notify the WTO of a regulation change when it is believed to only affect trade with partners that have been informed of the new regulation. This is expected for various reasons, mostly related to implementation costs.

It has been observed that in the Agreement, standards that achieve a higher protection level than international standards are considered but standards that achieve a lower protection level are ruled out. However, the food safety experience and interests of developing countries may differ from the one international standards are addressed at. Therefore, it has been considered important to evaluate if it is reasonable, in a real world context, to sustain a two-tier system with high standards domestically in developed countries and in developing countries exports sectors and lower standards domestically in developing countries. The issue is not only relevant for trade within developing countries, but also between developing countries. As has been stressed by Jensen (2002): “would it be reasonable to allow, for instance, Tanzania to deny access of imported fruit from Kenya referring to international standards if these international standards in practice apply neither in Kenya nor in Tanzania but only for developed countries?”

In terms of the analytical framework employed by the various analyzes, there have been various studies that present classification procedures for the impact of SPS measures upon trade, while others suggest analytical frameworks to assess their impacts. However, very few of the applied studies have been successful in
determining a framework of economic analysis to assess the trade impact of SPS regulations.

Henson et al. (1999) classified the trade impacts of SPS measures in 3 groups that illustrate the potential negative effects these may have upon trade. The impacts imply that: a) the measure can prohibit trade by imposing a ban or by increasing costs of production and marketing, sometimes to prohibitive levels; b) measures can divert trade from one trading partner to another by establishing regulations that discriminate across potential suppliers; and c) measures can reduce overall trade by increasing cost or raising barriers for all potential suppliers.

2.2. Case studies – Three dispute cases taken to the WTO Dispute Settlement Board

An alternative approach chosen to evaluate the effects of the SPS Agreement upon agricultural trade has been through the evaluation of the process and issues related to the three complaints that have undergone the full dispute settlement process: (i) The complaints by the United States and Canada about the EU’s ban on hormone-treated beef imports (the hormones case; (ii) the complaint by Canada about the import ban on salmon into Australia (the salmon case); (iii) the complaint by the US about Japanese fruit varietal testing import procedures (the varietal testing case). These three cases have involved respectively human, animal and plant health issues. There is a vast literature related to the hormone case, including issue about the WTO Panel and Appellate Body reports. The literature related to the salmon case is limited to few studies. The case concerning the Japanese ban on imports of numerous varieties of fruits and nuts (Japanese Agricultural Products) has not been explored by the related literature, according to Victor (2000).

2.3. Developing countries problems within the SPS Agreement of the WTO
Although analysis of trade impacts of SPS measures has most frequently focused on developed countries cases, several authors, among those Henson et al. (1999), have suggested that the effects of SPS measures are even more expressive for developing countries, reflecting the relative importance of agricultural and food for those countries’ exports and their lower financial and technical ability to comply with the SPS requirements within the WTO Agreement.

It seems to be clear, by now, that while the international community has tried to overcome trade distortive effects through the SPS Agreement, there are reasons to expect that the trade pattern between developed and developing countries can be negatively affected by the Agreement. Comparative advantages, interpreted as lower production costs associated to input efficiency, will not be the parameter to explain the new patterns. To implement and harmonize SPS requirements, costs will tend to increase, and there is no regulation to impede these to reach levels that will be sufficiently high to exclude developing countries’ exports from importing markets. High costs of adapting production process and implementation of risk assessment procedures cannot be interpreted as a proof that a regulation has a protectionist aim. Even because, “high costs” is a relative parameter.

The Dispute Settlement process, which is supposed to be decisive for the whole process, has been indicated as lengthy and also very demanding in terms of financial capacity and human resources (ACWL, 1999 cited by Jensen, 2002).

Hoekman and Mavroidis (2000), cited by Jensen (2002) describe problems faced by developing countries within the legal procedures of the SPS Agreement. Filling a complaint about the SPS Agreement requires identification of a violation of a specific commitment. Information is a critical factor and may be under-supplied in developing countries information. First actors that must react are the private enterprises - that must provide the information about market access problems - may see little use of the SPS Agreement. This is particularly true if the market is too small to make it worthwhile spending time and money to convince the national government to bring the case to the WTO.
It may also be the case that the solution promised by the Dispute Settlement process is out of touch with the developing countries’ commercial reality. A process frequently lasts two to three years before a possibly favorable decision by a panel or the Appellate Body will bring about changes in regulations. For a producer or exporter, the loss in the meantime may be so high that it would be wiser to search for alternative market outlets (Jensen, 2002).

There are also implementation costs of the Agreement, that are considerable, and reports to a second fundamental problem related to the extent of harmonization of international standards that may be desirable from a developing country viewpoint. In fact, developing countries have been critical of the procedures by which international standards are negotiated and agreed at OIE, Codex Alimentarius and IPPC, claiming that they have failed in accounting for their needs and special circumstances. Key issues include the nature of decision-making processes within those international organizations and the countries’ effective participation in these institutions, given their financial, scientific and technical limitations (Henson et al., 1999).

Henson et al. (1999) evaluated ten case studies based on questionnaires applied to countries to identify the relative importance of several factors with respect to its ability to satisfy SPS requirements in exports of agricultural and food products to the European Union. The most important factors were “insufficient access to technical and scientific expertise” and “incompatibility of SPS requirements with domestic production/marketing methods” (Table 2). The less important factors were indicated as “poor awareness of SPS requirements within agricultural and food industry” and “poor access to information on SPS requirements”. These results were interpreted as an indication that although developing countries are aware of the prevailing SPS requirements to export to the EU countries, they lack the required resources.
Table 2 – Mean significance scores for problems in meeting SPS requirements in exporting agricultural and food products to the EU.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean Score</th>
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<tbody>
<tr>
<td>Insufficient access scientific/technical expertise</td>
<td>1.6</td>
</tr>
<tr>
<td>Incompatibility of SPS requirements with domestic production/marketing methods</td>
<td>2.1</td>
</tr>
<tr>
<td>Poor access to financial resources</td>
<td>2.6</td>
</tr>
<tr>
<td>Insufficient time permitted for compliance</td>
<td>3.0a</td>
</tr>
<tr>
<td>Limitations in own country’s administrative arrangements for SPS requirements</td>
<td>3.1a</td>
</tr>
<tr>
<td>Poor awareness of SPS requirements amongst government officials</td>
<td>3.1a</td>
</tr>
<tr>
<td>Poor awareness of SPS requirements within agriculture and food industry</td>
<td>3.5</td>
</tr>
<tr>
<td>Poor access to information on SPS requirements</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Source: Henson et al. (1999)
Note: Scores denoted by the same letter are not significantly different at the 5 per cent level.

Another indicator used to evaluate the adoption and participation level of countries on SPS Agreement is the establishment of enquiry points and national notification agencies by member countries. It has been observed that only few developing countries have implemented these requirements (Henson et al., 1999).

The participation of developing countries in the SPS Agreement was also evaluated by the attendance to SPS Committee meetings in Geneva. Statistics of the meetings showed that this participation was also very low. It has also been indicated that an important issue for some members is not only the attendance to the meetings, but the actual ability to understand and contribute to their discussions. Based on these evidences, Henson et al. (1999) concluded that to date, developing countries have not actively participated in the SPS Agreement.
Another issue that has been of concern to developing countries is that exporters bear the cost of the procedures required under SPS Agreement. Separate certification is needed in cases where mandatory product specifications differ between countries, even when countries rely on common international standards. Duplication of effort associated with separate conformity assessment procedures is costly, while effective in excluding producers from certain markets. A study conducted by the OECD in 1996, showed that differing standards and technical regulations, combined with the cost of testing and compliance of certification can be significant, varying between 2 and 10 percent of overall production costs (Hufbauer et al, 1999).

Miranda (2001) observed that the complexity of the harmonization process and acceptance of international standards has generated different requirements between importing countries of Brazilian goods, particularly for meat. This has resulted in higher costs of product ad equation, more bureaucracy and has increased the complexity of the exporting process, by requiring the identification of every specific rule for almost each of the different countries for which the products are exported.

Knowledge about the SPS Agreement and its opportunities is not always widespread among private enterprises (nor among governments) in developing countries (WTO; 1997, 1999a). In such circumstances the flow of information from the private sector to public agencies responsible for implementing regulations and policymaking will be limited. Therefore, an important challenge is not only to improve communication among Member about SPS issues, but also to assure that private sector participates in the SPS implementation procedures.

All the aspects discussed above leads to a clear conclusion that has been similar to those presented by other authors such as Henson and Loader (2001) and Jensen (2002). The conclusion can be summarized as the following: SPS measures became a major factor influencing the ability of developing countries to exploit export opportunities for agricultural and food products in developed country markets.
2.4. Methodological approaches to quantify the impacts of SPS measures

A literature review on the effort conducted to quantify the trade effects of SPS measures has shown that it is difficult to present conclusive results. This has been partly attributed to the lack of systematic information and partly to the heterogeneous nature of these regulations, such that the identification of a unifying methodology becomes very difficult.

Important reasons to explain why the assessment of trade effects of SPS standards (SPS) poses problems for trade policy analysts were presented by Josling (1997). He stressed that the differences between approaching trade impacts of traditional trade barriers and the effects of SPS, emphasizing that for the latter: “(i) there is a need of a considerably greater amount of information, including detailed knowledge of the regulations themselves, besides the process by which companies or individuals meet those regulations and the implications of not complying with the rules; (ii) it requires the definition of a framework of economic analysis that is not only suitable to the available technical information, but also simple and easy to understand, while comprehensive enough to allow a satisfactory answer to a range of questions; and (iii) the analytical framework must include a classification of the policy instruments in order to identify their main characteristics. It must also provide means to place empirical data for calculation of the trade and welfare effects of SPS/TBT trade impediments.”

The only institutional attempt known to systematically identify technical barriers has been the United Nations Committee on Trade and Development (UNCTAD’s) Trade Control Measure (TCM) database. In addition to technical barriers, the TCM database records the use of other NTB’s, such as quotas, licensing measures, price controls, and monopolistic practices. The shortcomings of this database are widely recognized, as the lack of any information on health or safety regulations in most EU countries (Ndayisenga and Kinsey3). In addition, the criterion to select the Non-Tariff

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Measures has not been clearly presented, although it does not include all the notifications registered by the countries at the WTO.

Beghin & Bureau (2001) stressed the importance of the distinction between a trade-oriented concept and a welfare-oriented definition of a Non-Tariff Barrier (NTB). The authors indicated that the difference is not only important on theoretical grounds. It has direct consequences on empirical measurements since the two concepts lead to different approaches. Some methods rely on the measurement of potential trade impacts only (this is the case of methods based on, for example, price-wedge estimation, surveys and gravity models). Other methods are grounded in welfare economics, and measure NTBs through a larger range of effects than trade alone. This is the case of methods based on comparative-statistics or cost-benefit analysis and general equilibrium analysis.

Baldwin (1994)\(^4\) distinguishes between rent-creating barriers and cost-creating barriers. In the former case, the price gap created by the barriers is captured by who captures the import licenses. In the latter case, the barriers raise the real cost of importing the goods. Rent-creating barriers include, for example, import quotas and voluntary export restraints. Cost-creating barriers include government procurement regulations, domestic content requirements, anti-dumping and countervailing duties, customs valuation procedures, and technical barriers that may be designed at least in part to protect domestic firms and service providers against foreign competition (Deardorff & Stern, 2001).

Deardorff & Stern (2001) argued that the purest measure of an NTB in the price dimension is one that compares the price that would prevail without the NTB and the price that would prevail domestically in the presence of the NTB, if the price paid to suppliers were to remain unchanged. However, since both of these prices are usually non-observable, actual measures of NTBs have focused instead on a comparison of the domestic and foreign prices in the presence of NTB.

There are several different approaches that have been used to provide the basis for econometric estimates of NTBs. These approaches can be characterized as

being based on stylized or formal versions of the Heckscher-Ohlin, Helpman-Krugman, and gravity models of international trade. Essentially, all of these approaches attempt to measure NTBs, either by regarding residuals from the estimated regressions as representing NTBs or by using various dummy variables.

According to Deardorff & Stern (2001), in many instances, particular NTBs are implemented at a given point of time. With that information alone it may be possible to identify the effects of the NTB just by observing how the price or quantity or imports change at the time of implementation. A more elaborate form, if data is available, is to conduct a time-series econometric analysis for the periods in which the NTB is in place. If some other event happens to affect trade simultaneously with the NTB, then this approach may give misleading information unless the importance of that other event is correctly diagnosed.

The use of price comparisons may be of limited use to assess inter-country differences in standards, since price differences may not reflect barriers to trade. Deardorff & Stern consider that what is needed is information provided by technical experts who are familiar with the details of the standards, regulations, and certification systems applied to particular product or processes. In particular, they indicate that it may be possible to estimate added costs involved when: 1) higher standards are applied to imported as compared to domestic goods; 2) regulations are enforced more strictly upon imports; and 3) imports are subject to more cumbersome and costly certifications procedures.

Roberts et al (1999) have considered that an important restriction is that, in general, the impacts of these measures can only be captured in an indirect form, through additional costs incurred by producers or traders to attend the requirements. These authors have added that to the extent that these regulations affect production functions and consumption decisions, the import demand and export supply curves can be expected to shift in response as these are imposed or rescinded, increasing the complexity of the analytical context.

The following items present a summary of the methods that have been most frequently employed to identify and quantify the effects of Non-Tariff Barriers (NTBs).
Several of the methods discussed have already been applied to assess empirical cases involving technical and sanitary barriers to trade.

2.4.1. Time series method – Intervention Models

Miranda (2001) developed a study to evaluate non-tariff barriers impacts - mainly technical and sanitary -, upon quantities and prices of Brazilian beef foreign sales, employing quantitative procedures. The analysis was implemented for the period from January 1992 to December 2000, considering two specific markets: European Union’s market for special beef cuts (chilled or frozen) and the United States’ market for corned beef.

The author used a reduced form model that was built to explain the products’ external sales. Regressions were estimated in order to identify the influence of main domestic supply and demand variables, as well as international demand factors upon the external sales data. The residuals of those models were analyzed to identify the outliers that could reflect impacts of sanitary and other exogenous events, not measured by the explanatory variables. Since abnormal residuals were found, that could be related to relevant events. Intervention models were adjusted to permit to obtain impact estimates directly on prices and quantities series and establish the intervention influence pattern. A detailed description on beef export market and its determinants, both internal and external were presented. Besides the literature review, questionnaires were applied to beef exporting industries. The detailed description is an instrument necessary to implement this kind of analysis.

The results obtained by Miranda (2001) showed that a great part of external sales volume and price variations were due to market fundamental variables, like exchange rate, cattle price, Brazil income, prices of competitive countries and others. In the intervention model analysis for beef special cuts, the 1995 March point was significant, indicating a reduction effect on those product prices, during three months afterwards. This effect can be related to the embargo of European imports to the São Paulo and Minas Gerais States beef exports, in that period. In general, interventions
results related to sanitary events were not significant or conclusive. Miranda (2001) attempted that possibly, data regionalization for Cattle Circuits, related to the Foot and Mouth Disease (FMD) Circuits accepted by OIE, could generate more elucidative results on those events impacts, because it is supposed that regions considered free from the FMD are less affected than regions that have not yet gotten that status.

2.4.2. Simulation Analysis

Also related to the idea that standards and technical regulations can restrict competition in the local economy by raising costs to foreign suppliers, Ganslandt & Markunsen (2000) suggested approaches to formally model standards and technical regulations governing trade in applied general-equilibrium models with real data. The main advantage of a CGE framework can be indicated as its ability to assess the cross-sectoral impacts of regulations on outputs, prices, employment, and trade, along with meaningful computations of economic welfare. CGE models may also be developed to handle alternative market structures, demand specifications, and policy interventions in a flexible manner, both for single countries and multiple countries. These aspects were illustrated in the work developed by Ganslandt & Markunsen (2000), presented above.

Maskus et al (2000), referring to the work conducted by Ganslandt & Markunsen (2000), indicate that the CGE disadvantages lies in the need to conduct the analysis at aggregated levels, making it difficult to translate specific regulations, which typically exist at the product level, into meaningful policy experiments.
2.4.3. Price wedge and tariff equivalent methods

Price wedge analysis has been used by the World Bank staff and was applied in the tariffication process of non-tariff barriers in agriculture products trade, proposed in the Uruguay Round (Laird, 1996).

This method relies on the idea that NTBs can be measured in terms of their impact on the domestic price in comparison to a reference price. The main use of this method is to provide a tariff equivalent. However, the estimated value of the price wedge can also be used as an input in partial or even general equilibrium models, that focus more on the welfare effect of NTBs (Beghin & Bureau, 2001).

The tariff equivalent is estimated by calculating the price wedge between the imported good and the comparable product in the domestic market. The correct measure would be to compare the price that would prevail without the NTB to the price that would prevail domestically in its presence if the price paid to suppliers were to remain unchanged (Deardorff & Stern, 1998). The tariff equivalent of a regulation can also be measured as a residue when the price difference is corrected for tariff, handling, and transportation costs and for product quality differences (Beghin & Bureau, 2001).

2.4.4. Gravity models

Gravity models are an interesting option to quantify NTBs effects, considering the foregone trade that cannot be explained by tariffs. According to Beghin & Bureau (2001) a typical approach is to analyze the residuals in economic regressions of trade flows on the various determinants of trade. Gravity models have long been used to estimate the “home bias” or the “border effect” in trade, a part of it reflecting national regulations that hamper trade. In a similar way to the “Law of Universal Gravitation”, economists have found out in the 60s that the equation $F_{ij} = G^*(M_i^a M_j^b)/D_{ij}^2$

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performed well at explaining trade flows if $F_{ij}$ is the “flow” from origin $i$ to destination $j$, $M_i$ and $M_j$ the relevant economic sizes of the two locations, $D_{ij}$ the distance between the locations, and $G$, $a$ and $b$ are constant ($G$, $a$ and $b$ have subsequently been related to the form of economic functions). Anderson (1979)$^6$ gave theoretical foundation for this model in the presence of imperfect substitutability between goods, and further situations have shown that the gravity equation was consistent with a monopolistic competition (Bergstrand, 1989; Deardorff, 1998$^7$).

Beghin & Bureau (2001) mention that it seems possible to use information on regulations, for example, estimates using variables like number or frequency of regulations, survey based impacts, or in certain cases, the levels of standards themselves, provided that there is some variability across countries or over time (e.g. the level of chemical residues, of aflatoxins, of antibiotics etc) as explanatory variables. “Robust methods such as variance analysis or principal component analysis applied to the border effect term could help quantifying the impact of NTBs on trade. Gravity based techniques attempt to measure the trade impact of NTBs, rather than their welfare impact, and may therefore ignore some of the effect of the regulations that correct market failures but restrict trade. However, the sign of the variables that capture the NTB effect in the regression is not constrained, and it is possible to capture also the trade enhancing effect of regulations, when they act as standards that facilitate trade”.

Otsuki et al. (2000)$^8$, cited by Beghin & Bureau (2001), used this method to explain trade patterns between countries and to determine the effect of European aflatoxin standards on African exports. Their results showed that new (and more stringent) EU standards were likely to be a major barrier to African exports of dries fruits and nuts. They exploited the possibility of using the level of standard itself as

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an explanatory variable, because the aflatoxin maximum residue shows statistical variation in their panel.

2.4.5. Cost-benefit measures of risk assessments

Risk assessment approaches coupled to cost-benefit calculations, can indirectly contribute to measure the effect of regulations, and therefore of NTBs. These assessments provide indications about what should be included as trade barriers based on the effect of regulations on economic welfare (Beghin & Bureau, 2001).

For example, when SPS regulations aim to correct market failures, it is often difficult to identify the protectionist component of the regulation. In few cases the efficiency of assessment is straightforward. An example presented by Beghin & Bureau (2001) is the case of a standard (or of its enforcement) that only raises costs (e.g., through delays in inspection or fees). This is considered inefficient for consumer protection and classified as a NTB. In other cases, comparing the costs of compliance to the gains associated with the reduction of an externality, the prevention of contamination or pest infestation can help unraveling the efficiency and the protectionist effect of a regulation. By decomposing the welfare effects, it is possible to assess the welfare loss associated to a measure whose costs exceed its benefits. When the benefits are found negligible, this approach provides a sufficient test of trade distortion. Its main limitation is the high uncertainty surrounding the risk levels and its economic consequences. In the case of sanitary and phytosanitary measures, for example, it requires that the probability of a contamination, or of spreading a disease or a pest is determined, together with associated cost.

The analysis carried out by the USDA in the case of the trade policy with Mexico on avocados is a compelling illustration that the mix of science based evaluation and cost-benefit analysis can be useful in the estimation of NTBs as well.
as the settlement of SPS trade disputes (Orden and Romano, 1996\(^9\) cited by Beghin & Bureau, 2001). Factors considered in the analysis were: evaluation of pest risk, the definition of measures that help reducing the risk of spreading pests at a low, albeit non zero, level and the combination of these assessments with a comprehensive evaluation of the potential costs to the benefits, including impact on consumers. The economic assessment of a partial ban was tested against various probabilities of pest infestation and it showed that the US import ban resulted in large transfers to US producers, through higher domestic than foreign prices, to avoid relatively small potential costs of a pest infestation.

2.4.6. Inventory approach

The inventory approach was indicated by the United Nation Conference on Trade and Development (UNCTAD) as a procedure that could be used to quantify non-tariff barriers. It provides an estimate of the portion of trade that is subject to NTBs or the frequency by which it is applied to specific sectors or countries. The required data is collected by tariff line and by the nature of the measure associated with the trade barrier. A limitation is that these do not express domestic support measures and neither those that are export related (Laird, 1996).

This procedure is useful as an inventory of the international trade barriers used by importing countries. It presents some limitations for modeling, but can be used to calculate trade coverage and frequency indexes. It is also useful to obtain Trade Restrictiveness Indexes (Laird, 1996; Pereira, 1989).

Beghin & Bureau (2001) consider that this approach can be used to assess the importance of domestic regulations both in a quantitative and in a qualitative perspective. According to these authors, three information sources can be used: a) data on regulations, such as the number of regulations that can be used to construct various statistical indicators, or proxy variables; b) data on frequency of product

detention (for example, in US, data available upon product detentions at the border, reasons for the detention and frequency); and c) data on complaints presented by industries against discriminatory regulatory practices, together with notifications to international bodies about such practices.

In general, the inventoried measures include a) number of restrictions; b) frequency ratios (number of product categories subject to a NTB, as a percentage of total number of product category in classification); c) import coverage ratio, constructed as the value of imports of each commodity subjected to a NTB, as a percentage of imports in the corresponding product category. For example, the percentage of standards based on international ones can be an indication of the overall compliance of national standard with widely used international standards.

About the practical validity of this method, Beghin & Bureau (2001) affirm that different standards would not be expected to have similar effects and that number of standards is a poor proxy for the trade restrictiveness of the whole regulatory set. There are also limitations caused by the uneven reporting by countries and by the non-uniform coverage of measures across countries.

Inventory-based methods do not effectively provide a quantification of the impact of regulations on trade per se, but they can provide useful indications on the importance of the problem, and on which sectors and countries NTBs are more likely to be found.

### 2.5. Main provisions in sub regional or bilateral trade agreements dealing with SPS measures – the FTAA case

The implementation of SPS Agreement has not been easy, as has been pointed out by Stanton (1999). The author extended the difficulties to the context of the Americas. The WTO/SPS subcommittee has been searching for means to assure that countries understand and implement the agreement provisions. It has been considered that the observer status, that today is restricted to member countries,
could be extended to international or regional organizations that could work more directly with the member countries (Walker, 1999).

According to Walker (1999), within the Free Trade Area of the Americas (FTAA) negotiation process, the SPS working group has currently been included into the Agriculture committee. To date, the Committee has been driven by commercial and not agricultural subjects, as expected. The increasing concern is that SPS will be treated not on a strict scientific basis, as it has been originally established, but rather as another potential barrier to trade. The author considers, however, that if policymakers are well intentioned and aware of these problems, FTAA can become an excellent opportunity to reinforce the SPS agreement and explore hemispheric initiatives to better implement disciplines such as transparency and harmonization.

Within the Americas, with one exception, all countries are members of the WTO, and thereby agree with the SPS process. Countries cannot arbitrarily ignore or refuse to import products, and must evaluate the entry of those products based on the SPS articles. In either case, to avoid the introduction of unwanted diseases and pests, countries will need to modernize their national agricultural health and food safety systems.

According to Walker (1999), countries have different levels of understanding and adoption of the SPS articles. The agreement, largely scripted by the most developed countries, acknowledges that developing members may find particular difficulties to comply with the SPS measures, as it has been already discussed throughout the present paper. For this purpose, members agreed to facilitate the provision of such assistance, which can be in the form of risk assessment training or loans to developing countries. However, evidence that there have been systematic efforts to assist developing countries to understand or make the required structural changes, in order to benefit from the SPS agreement, is still scarce.

The SPS agreement assumes that certain basic conditions exist across countries within their national agricultural health and food safety system. To define the basic minimum requirements and technical functions required to comply with the SPS agreement, the Inter-American Institute of Cooperation for Agriculture – IICA,
has recently sponsored a working group meeting comprised of selected experts in
food safety, animal and plant health from across the Americas. Eight basic minimum
requirements assumed in the SPS agreement were identified. These included
technical independence, legal authorities, financial funding mechanisms, technical
stability and capability. Within many countries these minimum requirements are
loosely defined or non-existent, allowing for political decisions to over ride
scientifically based assessments (Walker, 1999).

This author sustains that Governments must maintain certain non-delegate
functions, such as setting regulations based on laws defining standards and
procedures, establishing sanctions and enforcing compliance, and carrying out official
government representation at international organizations, such as the WTO and
Codex Alimentarius. Beyond these non-delegate functions, public and private sector
partnerships are necessary, and are already underway in some countries. The
determination of roles, setting of users’ fees to fund certification programs,
accreditation to carry out specified functions, are all examples of positive interactions.
In the absence of a definition of complimentary roles, national agricultural health and
food safety systems will remain underdeveloped.

One of the objectives of the Negotiating Group on Agriculture of the FTAA is to
ensure consistency of the FTAA with the WTO SPS, such that SPS measures can be
applied only to achieve the appropriate level of protection for human, animal, or plant
life or health. It will be based on scientific principles and maintained only when there
is sufficient scientific evidence (Burfisher & Link, 2000).

Counter-notifications have been an instrument subject to much discussion
within the Agricultural Group of the FTAA meetings. Its purpose is to increase
transparency of the SPS measure in a regional context. It is expected that counter-
notifications become an effective way to be used by developing countries and lower
income countries to defend their interests in the SPS context. Its major advantages
have been related to lower costs, less bureaucracy, better logistics, higher politics
and technical and scientific support between the countries of the Americas.
It is also important to stress that counter-notifications are a mechanism through which entrepreneurs, other representatives of the private sector and public institutions can present a complaint against a rule or Notification filed by other country or group of countries, whenever it considers that it might negatively affect its trade relations. The operational model of this instrument is still under discussion within the Agricultural Group of the FTAA meetings.

3. An assessment of the SPS measures upon agricultural trade within the Western Hemisphere countries

The analysis presented in this section evaluates the importance assumed by SPS measures for trade within the WH countries. The information used for the analysis is based on Notifications and Specific Trade Concerns (STCs) documentation of the WTO Committee on Sanitary and Phytosanitary.

3.1. Notifications and harmonization: an evaluation applied to the WH countries

Notifications are a useful indicator to evaluate progress towards increasing transparency induced by the SPS Agreement. The G/SPS/GEN documents of Notifications presented by Member countries were used as a data source for this analysis. The data refers to the period from January 1995 to December 2001.

The total number of Notifications presented by WH countries in this period amounted to 1441. For the analysis, these were restricted to those affecting trade

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10 UNCTAD Database – TRAINS, which is the only Non-Tariff Measures (NTM) database available was also investigated. However, since it apparently represents a selection of WTO Notifications based on a criterion for which a clear specification could not be determined, it seemed more appropriate to work with all the available information on SPS measures and regulations that could be gathered at the WTO.
between WH countries, including a total of 1248 Notifications. This set represents a high proportion of the total, indicating that it is important to include SPS issues in the FTAA negotiations. The analysis included all 34 WH countries, although many of these (47%) did not present any Notification that affected trade within WH countries.

The Notifications were organized by country, product category and by the objective explicit in the documentation.

In order to obtain more details, products were aggregated into 8 categories referred to as: Meat, Fruit and Vegetable, Dairy, Wood, Agriculture and Livestock, Chemical Products and Others. Details about the criterion used to aggregate products in each of these categories are discussed together with its analysis in item 3.1.4.

The Notifications were organized considering objectives such as food safety, plant health, animal health, human health, and territorial protection, as well as the various combinations of these objectives, as they appeared in the WTO documentation.

3.1.1. Number of Notifications

In aggregate terms, the number of SPS Notifications made by WH countries followed an increasing trend, starting at 1995 (Figure 1). The United States presented most of these Notifications. Only at the first year that followed the SPS Agreement of the WTO, the total number of Notifications issued by the United States was lower than those presented by another single WH country. In 1995 Mexico represented 76% of the total number of Notifications, but this participation was much lower in the years that followed.
Most countries (53%) issued less than 10 Notifications during the period. It is true that the importance attributed to the SPS Agreement may be directly related to the country’s performance as an exporter (or importer) of agricultural and food products. However, it is also true that the notification procedure should be particularly appealing for most of the WH developing countries - although not for all of them - that have their exports mainly based on agricultural and food products.

Therefore, when harmonization is interesting for the countries’ exports, but they do not show an active participation in the Notification procedure, this may be an indication that the restrictions have been greater than the advantages associated to the SPS Agreement.
In order to present a more detailed picture of the SPS Notification framework for the WH countries, Figure 2 shows only the 15 countries that presented more than 10 Notifications during the 1995 to 2001 period.

Figure 2 - Participation of Notifications in percentage, issued by selected WH countries; total value for the period: 1995-2001

Source: WTO/SPS notifications

It can be observed that no more than five countries accumulated more than 80% of all Notifications from 1995 to 2001. The United States shows the highest percentage, followed by Mexico, Canada, Chile, and Argentina. The United States alone represents 47%, and the remaining 14 countries account for 34% of all the Notifications, as represented in Figure 2. There may be at least two important deductions from this picture, besides the evidence of a relatively lower reaction or motivation of developing countries to the Agreement, discussed in previous sections. This may be confirming that the use of SPS measures by developed countries has been following an increasing trend for a long time. It may also indicate that if Notifications have increased under the SPS Agreement only for a limited number of countries, the chances of any positive consequence in terms of harmonization will be undermined.

There is no constant pattern in the number of Notifications presented by individual countries over time, except for the United States, that maintained an
increasing trend (Figure 3). This seems to indicate that most of the countries have only been motivated to present Notifications as they had to conduct their “regulatory review” to comply with the new rules under the SPS Agreement. After that, there were no further incentives to keep up with the Notification procedure.

Figure 3 - Participation of the total number of notifications issued by selected WH countries, excluding the U.S., in the total number of notifications issued to WTO; (in %) Period: 1995-2001.

Source: WTO/SPS notifications

3.1.2. SPS Notification Pattern by Income Group

The pattern of Notifications was also evaluated considering the countries aggregated by income group (based on the World Bank’s criterion). It was observed that high-income countries (United States and Canada) generally notify changes in legislation. In fact, a high correlation between the degree of the economy’s import volumes of food and agricultural products and the number of notifications is expected. Countries with lower imports may adopt sanitary and phytosanitary measures that are not, however, systematically notified.
A change in the relative participation of high-income countries and the others -, including upper-middle income, lower-middle income countries -, can be verified between the first four years (1995-1998) of the enforcement of the SPS Agreement and the last three years evaluated in this analysis (1999-2001), as shown in Figure 4. During the first period, the high-income group presents a relatively low participation averaging 26%. During the second period, however, the relative participation of these countries increased to 70%.

![Figure 4 - Distribution of total number of notifications, issued per year, by the WH Countries; by income group. 1995-2001](image)

Source: WTO/SPS notifications.

There are several factors that might explain this pattern. First, it is important to stress that despite of the purpose of SPS measures to find the proper balance between consumer protection and protectionism, in several instances, it has not been easy to draw a line separating these objectives. This happens when there is no consensus upon the state of science development, or when consumer’s confidence is weakened by previous experiences. There is evidence that countries have declared different protection objectives either because they take into account the uncertainty
with respect to risks or because consumer’s distrust scientific evidence. When this is the case, countries tend to apply the precautionary principle. When this happens, however, it becomes easier for lobbies and administrations to use stricter than necessary regulations. The cost of conforming to the new rules may be substantially increased for many middle and low-income countries, which apparently inhibits their participation in the Agreement.

This may be explained by two major factors. An increased concern that the SPS Agreement tends to lower food standards in high income countries, and most importantly, the concentration of food scares in this second period, that included food contamination with bacteria like E.coli and salmonella, food transferred disease like Mad Cow disease and food contaminated with dioxin. According to a United States General Accounting Office report (GAO/RCED – 00 – 255 Safety of Animal Feed, of September 22, 2000), the Centers for Disease Control and Prevention (CDC) estimated that each year in the United States over 5,000 people die and 76 million people become ill from unsafe food. One source of transmission of unsafe food is animal feed, which can contain harmful bacteria, such as Salmonella. While livestock or poultry may be immune to certain bacteria, human beings may not be. As a result, the food product containing these bacteria can cause illness, and even death, in the individual consuming it. Unsafe animal feed has also contributed to diseases such as bovine spongiform encephalopathy (BSE) in cattle, also known as “mad cow disease.” In 1989, the United States banned the importation of cattle and animal feed from BSE-affected countries. In 1999, animal feed contaminated with dioxin, a carcinogen, caused an estimated $850 million in losses to the Belgium livestock and poultry industries and resulted in elevated levels of the contaminant in persons who consumed the affected food products. Although these incidents have been limited to European countries to date, they demonstrate the devastating public health and economic consequences that can result from introducing contaminants into the feed supply.

The upper-middle income group of countries had a lower participation in the second period, since its average decreased from 62% in the first period to 18%. Although most of the countries that compose the group also confronted problems,
particularly with BSE, they were not net importers of countries that could become a source of contamination of the national herd or food.

Although the lower middle income presented a higher participation in the second period, almost twice as high (22%) as that presented in the first period (11%), it remained marginal, and the increase was probably related a higher relative participation of the high-income countries in the second period. The participation of low-income countries is nil during the entire period (1995 – 2001).

3.1.3. SPS Notification – An evaluation by Objectives

The distribution of explicit objectives of SPS measures notified by WH countries to WTO show that Food Safety (FS) was cited in 41% of the Notifications (Figure 5). It was followed by Plant Health (19%), Animal Health (15%), Territorial Protection (6%) and Human Health (6%), in terms of specific objectives. There were also 11 different combinations of these objectives indicated in a lower percentage of the Notifications (Figure 5). This is another evidence that developed countries’ issues prevail in international standards and regulations forums. Food safety is certainly a much more important subject for developed than for developing countries. These last are concerned much more with food security problems.
3.1.4. SPS Notification Pattern by Product Category

The relative importance of products that were subject to a Notification, indicate that those applied to Agriculture and Livestock presented the highest frequency of indications (29% of the total), as shown in Table 3. This high percentage combined with an also high frequency associated with Meat (19.3%) are certainly related to the food scares generated by BSE, together with the FMD problems faced by several WH countries.
Table 3  – Number of Notifications presented to WTO, by WH countries and by product category. Period: 1995 – 2001

<table>
<thead>
<tr>
<th>Country</th>
<th>Fruit &amp; Vegetable</th>
<th>Meat</th>
<th>Dairy</th>
<th>Fisheries</th>
<th>Wood</th>
<th>Agric/Livestock1</th>
<th>Chemical2</th>
<th>Other3</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>80</td>
<td>79</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>150</td>
<td>254</td>
<td>5</td>
<td>586</td>
</tr>
<tr>
<td>Mexico</td>
<td>32</td>
<td>51</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>51</td>
<td>1</td>
<td>20</td>
<td>166</td>
</tr>
<tr>
<td>Canada</td>
<td>16</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>41</td>
<td>37</td>
<td>1</td>
<td>103</td>
</tr>
<tr>
<td>Chile</td>
<td>19</td>
<td>27</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>20</td>
<td>2</td>
<td>18</td>
<td>91</td>
</tr>
<tr>
<td>Argentina</td>
<td>10</td>
<td>19</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>0</td>
<td>5</td>
<td>61</td>
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<tr>
<td>Colombia</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>19</td>
<td>11</td>
<td>0</td>
<td>46</td>
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<tr>
<td>Brazil</td>
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<td>1</td>
<td>0</td>
<td>2</td>
<td>14</td>
<td>9</td>
<td>3</td>
<td>43</td>
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<td>Panama</td>
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<td>2</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>6</td>
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<td>El Salvador</td>
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<td>0</td>
<td>0</td>
<td>4</td>
<td>12</td>
<td>2</td>
<td>35</td>
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<tr>
<td>Peru</td>
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<td>0</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Costa Rica</td>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Others4</td>
<td>7</td>
<td>6</td>
<td>0</td>
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<td>0</td>
<td>7</td>
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<td>21</td>
</tr>
<tr>
<td>TOTAL</td>
<td>197</td>
<td>241</td>
<td>17</td>
<td>19</td>
<td>19</td>
<td>359</td>
<td>327</td>
<td>69</td>
<td>1248</td>
</tr>
<tr>
<td>(%) of Total</td>
<td>15,8</td>
<td>19,3</td>
<td>1,4</td>
<td>1,5</td>
<td>1,5</td>
<td>28,8</td>
<td>26,2</td>
<td>5,5</td>
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</tr>
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</table>

Source: Elaborated by authors, based on WTO notifications

Notes:

1 – Agriculture and Livestock includes all product indications that did not explicitly refer to any of the other product categories used for this classification. Agriculture, for instance, was created to represent most of the grains, excludes any specific reference to fruit and vegetables, and includes references to non-identified plants, vegetable propagation material, and flowers, among others. Livestock includes mostly live animals.

2 – Chemicals include all agricultural inputs and chemical substances in food.

3 – Others refer to products that were not considered to compose any of the defined categories, either related to plants or animals. Some common examples: animal semen, water, and beverages.

4 – Represents all countries within the WH that have not presented at least 10 notifications through the 1995-2001 period.

Chemicals were ranked second in terms of number of Notifications filed by the group of countries within the Americas. Twenty-six percent of the notifications indicated changes in measures that concerned the nature of the product, sampling procedures. The revision of the Maximum Level allowed for Residuals (MRL) has possibly assumed a major importance in the definition of this high percentage.
It may also be stressed that the relative importance of this category is possibly related to an increasing concern with human health and environment protection. Society has been much more aware of food quality issues, demanding higher standards, followed by a fast growth in organized groups defending consumer rights, particularly in developed countries. The same applies to environment protection and the societies’ concern in preventing negative impacts derived from the intensive use of chemical products, such as herbicides and pesticides in agriculture.

3.1.5. Cross analysis

For the high-income countries (US and Canada), the product category with the highest number of Notifications filed (218 of 689) was Chemicals related to Food Safety issues (Table 4). Agriculture and Livestock appears as second, in terms of number of Notifications filed (124 of 689), and are also related to Food Safety issues.

Table 4 – Regulatory objectives of measures notified to WTO by high-income countries, distributed by product category; 1995 - 2001

<table>
<thead>
<tr>
<th></th>
<th>Food safety</th>
<th>Plant Health</th>
<th>Animal Health</th>
<th>Protect Human</th>
<th>Protect Territory</th>
<th>Combined</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric/Cattle</td>
<td>124</td>
<td>22</td>
<td>22</td>
<td>2</td>
<td>2</td>
<td>19</td>
<td>191</td>
</tr>
<tr>
<td>Chemical</td>
<td>218</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>16</td>
<td>22</td>
<td>291</td>
</tr>
<tr>
<td>Meat</td>
<td>43</td>
<td>0</td>
<td>29</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>82</td>
</tr>
<tr>
<td>F&amp;V</td>
<td>69</td>
<td>23</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>96</td>
</tr>
<tr>
<td>Dairy</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Fisheries</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Wood</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>473</td>
<td>59</td>
<td>61</td>
<td>26</td>
<td>20</td>
<td>50</td>
<td>689</td>
</tr>
</tbody>
</table>

Source: WTO Notifications.
Within the developing countries, including the high middle and low middle-income countries, the emphasis is slightly different. Although Agriculture and Livestock show an expressive number of Notifications (92 of 561) in terms of product category, these are mostly related to Plant Health concerns and not Food Safety (Table 5). Meat is the second product category that received the highest number of notifications (87 of 561), subject to Animal Health concerns, rather than Food Safety.

<table>
<thead>
<tr>
<th></th>
<th>Food safety</th>
<th>Plant Health</th>
<th>Animal Health</th>
<th>Protect Humans</th>
<th>Protect Territory</th>
<th>Combined</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric/Cattle</td>
<td>5</td>
<td>92</td>
<td>5</td>
<td>5</td>
<td>22</td>
<td>39</td>
<td>168</td>
</tr>
<tr>
<td>Chemical</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td>Meat</td>
<td>6</td>
<td>0</td>
<td>87</td>
<td>18</td>
<td>5</td>
<td>45</td>
<td>161</td>
</tr>
<tr>
<td>F&amp;V</td>
<td>2</td>
<td>68</td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>6</td>
<td>101</td>
</tr>
<tr>
<td>Dairy</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Fisheries</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Wood</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>6</td>
<td>25</td>
<td>9</td>
<td>4</td>
<td>9</td>
<td>63</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35</td>
<td>178</td>
<td>125</td>
<td>48</td>
<td>60</td>
<td>115</td>
<td>561</td>
</tr>
</tbody>
</table>

Source: WTO Notifications.

3.2. Specific Trade Concerns presented to the SPS Committee

The results of the Specific Trade Concerns (STC) negotiations have been systematically summarized and documented at the SPS Committee meetings. These summaries started to be prepared by March 1999. Revisions of the summaries have been documented by the WTO as G/SPS/GEN/204/Rev.1 (November 2000) and G/SPS/GEN/204/Rev.2 (February 2002) and were used as a data source for this analysis.
The STC documentation became an important instrument to assess informal complaints with respect to the SPS measures. In general, these contentious include a complaint raised by a country against another country's SPS measure. The Committee attempts to solve these STCs between the involved parties without going through formal Dispute Settlement systems.

The Member countries have continuously updated the STC status. The issues are divided into those concerned with food safety, animal health, plant health and others. It is also important to emphasize that only few of these contentious have been resolved, as reported to the Committee.

There are several cases of contentious issues expressed as Specific Trade Concerns (STC) involving WH countries. In its second revision, updated in February 2002, 105 STCs have been raised by Member countries.

Table 12 shows the number of times a WH country appears as a complainant on STCs. It important to observe that more than one country can appear in one STC such that the sum presented in Table 12 is higher than 105. The United States has been the most active country, raising questions about SPS measures in the form of Notifications or rules imposed by other countries that belong or not to WH. It participated in 34 STCs.

Argentina, Chile, Canada and Brazil have also raised several Specific Trade Concerns at the Committee's meetings. This indicates that although some of the countries (such as Brazil and Argentina) have not filed an expressive number of Notifications, for transparency purposes, they are participant and try to solve conflicts with trading partners through the STC discussions.
Table 12 – Number of Western Hemispheric Countries’ claims on trade issues related to SPS Specific Trade Concerns; Period: 2000 -2002.

<table>
<thead>
<tr>
<th>Complainant</th>
<th>STCs involving only WH countries (a)</th>
<th>Total STCs (All Member countries) (b)</th>
<th>(a)+ (b)</th>
<th>% In Total STCs (105)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>5</td>
<td>21</td>
<td>26</td>
<td>24.8</td>
</tr>
<tr>
<td>Bolivia</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Brazil</td>
<td>1</td>
<td>12</td>
<td>13</td>
<td>12.4</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td>15</td>
<td>15</td>
<td>14.3</td>
</tr>
<tr>
<td>Chile</td>
<td>3</td>
<td>12</td>
<td>15</td>
<td>14.3</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td>3</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>El Salvador</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Honduras</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td>4</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>Panama</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Paraguay</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td>3</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>US</td>
<td>4</td>
<td>30</td>
<td>34</td>
<td>32.4</td>
</tr>
<tr>
<td>Venezuela</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
</tr>
</tbody>
</table>

1 Complainant is the country that files a Specific Trade Concern against another country’s (Complainant) rule or notification. It includes not only when the country raises the STC but also when it supports another country’s action. An STC can also evolve against a restrictive measure that has not been subject to a Notification; if there are arguments to sustain that there is a threat for safety issues.

Source: G/SPS/GEN/204/Rev.2

Table 13 shows the number of claims presented by Member countries indicating that a WH country SPS measure may be threatening other countries’ trade. The United States is also the country indicated most times as a complainer, in 11 STCs.
Table 13 – Number of times Western Hemispheric Countries were Complainers at WTO/SPS Specific Trade Concerns; Period: 2000 - 2002

<table>
<thead>
<tr>
<th>Complainee†</th>
<th>STCs involving only WH countries</th>
<th>Total STCs involving all world countries</th>
<th>Sum</th>
<th>% In Total World STCs (105)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>3,8</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0,9</td>
</tr>
<tr>
<td>Brazil</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>3,8</td>
</tr>
<tr>
<td>Canada</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4,8</td>
</tr>
<tr>
<td>Chile</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4,8</td>
</tr>
<tr>
<td>Colombia</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>El Salvador</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2,9</td>
</tr>
<tr>
<td>Honduras</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2,9</td>
</tr>
<tr>
<td>Mexico</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1,9</td>
</tr>
<tr>
<td>Panama</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2,9</td>
</tr>
<tr>
<td>Paraguay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>Peru</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>Uruguay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>US</td>
<td>3</td>
<td>8</td>
<td>11</td>
<td>10,5</td>
</tr>
<tr>
<td>Venezuela</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2,9</td>
</tr>
</tbody>
</table>

† Complainant is the country that enters in SPS Committee with a Specific Trade Concern against another country’s (Complainer) rule or notification. It includes not only when the country raises the STC but also when it supports another country’s action. An STC can also evolve against a restrictive measure that has not been subject to a Notification; if there are arguments to sustain that there is a threat for safety issues.

Source: G/SPS/GEN/204/Rev.2

### 3.3.1. STC - An evaluation by issue

The highest number of concerns exposed by STCs was of Animal Health and Zoonoses (38 of 105), followed by Plant Health (37 of 105), and Food Safety (27 of 105). There were also 3 cases presented as "Other concerns". The 38 issues concerned with Animal Health and Zoonoses comprise 12 cases related to BSE; 12
issues related to foot-and-mouth disease - FMD; and 13 cases classified as “other issues concerning animal health”.

An evaluation of the 38 STCs related to Animal Health and Zoonoses indicated that these are of high relative importance to the WH countries, since 25 were raised by one or more WH countries as complainant or complainer (66%).

The United States and Argentina were the countries that presented the most expressive participation, either as the complainer or as the complainant in 10 instances each. There were also 6 STCs affecting trade only between WH countries (Table 14). The concern with beef prevailed among the cases indicated, with 2 issues involving FMD and one related to BSE.

It is interesting to verify, that, contrary to what has been observed within the Notifications, in the STC, the participation of developed countries, the United States and Canada, is not as expressive as that of some key developing countries, such as Argentina, Brazil, Mexico, Paraguay, Uruguay and Chile. In fact, with respect to STC on Animal Health, Mercosur has dominated in terms of the number of issues raised (although only Argentina, Brazil and Uruguay were participating).
Table 14. Specific Trade Concerns with Animal Health and Zoonoses reported to the SPS Committee involving WH Countries.

<table>
<thead>
<tr>
<th>Complainant</th>
<th>Complainant</th>
<th>Dates raised:</th>
<th>Product</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Brazil</td>
<td>Mar 2001</td>
<td>Beef</td>
<td>Suspension lifted in Feb 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BSE</td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>Argentina</td>
<td>Oct 2001</td>
<td>Beef FMD</td>
<td>-</td>
</tr>
<tr>
<td>Mexico</td>
<td>Argentina</td>
<td>Jul 1999</td>
<td>Beef</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FMD</td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td>Chile</td>
<td>Nov 2000</td>
<td>Poultry meat</td>
<td>Agreement on a protocol and progress reported</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mar 2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>July 2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>Uruguay</td>
<td>Nov 1999</td>
<td>Meat and dairy</td>
<td>Issue resolved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nov 2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venezuela</td>
<td>United States</td>
<td>July 1997</td>
<td>Avian influenza</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>July 2001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: WTO STC Committee report.

The relatively low number of STCs with Food Safety can also be related to the intensity of the United States and Canada participation in Notifications, given their greater availability of highly trained technical and legal personnel to support and subsidize eventual actions in that context.
Table 15. Specific Trade Concerns with Food Safety reported to the SPS Committee involving WH Countries.

<table>
<thead>
<tr>
<th>Complainer</th>
<th>Complainant</th>
<th>Dates raised:</th>
<th>Product</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile, El Salvador, Honduras, Others</td>
<td>United States</td>
<td>Oct 1996</td>
<td>Poultry</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mar 1997</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jul 2001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: WTO STC Committee report.

An analysis of the STC concerned with Plant Health indicates that in 57 percent of the cases (21 of 37) the WH trade was affected by this issue. There were 7 STC, within which, the United States presented a high participation, appearing as the party that raised the issue in 4 instances, and as the affected party in 2 of these (Table 16). WH countries raised the 3 cases indicated as “Other Concerns”. The United States was responsible for 2 of these and Argentina by 1 of the issues.
Table 16. Specific Trade Concerns with Plant Health reported to the SPS Committee involving WH Countries.

<table>
<thead>
<tr>
<th>Complainant</th>
<th>Complainant</th>
<th>Dates raised:</th>
<th>Product</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>United States</td>
<td>Mar 1997 July 2001</td>
<td>Wheat</td>
<td>Import of certain classes of wheat allowed as of early 2001</td>
</tr>
<tr>
<td>Chile</td>
<td>United States</td>
<td>Mar 1997 July 2001</td>
<td>Wheat</td>
<td>Restrictions on wheat removed in Oct 1997. Import access granted for certain fruits; consultation on other fruits continuing</td>
</tr>
<tr>
<td>Honduras</td>
<td>United States</td>
<td>Mar 1997 July 2001</td>
<td>Rice</td>
<td>Honduras lifted its restrictions in 1997, and the U.S. considers the concern resolved</td>
</tr>
<tr>
<td>Panama</td>
<td>United States</td>
<td>Mar 1997 July 2001</td>
<td>Rice</td>
<td>Imports restrictions removed in 1997, concern resolved</td>
</tr>
<tr>
<td>United States</td>
<td>Chile</td>
<td>Oct 1997</td>
<td>Actions taken by local government</td>
<td>-</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Argentina</td>
<td>Mar 2001 Jul 2001 Oct 2001</td>
<td>Garlic and potato</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: WTO STC Committee report.

4. Conclusions

The evaluation detailed in this paper shows that the SPS Agreement of the WTO has been considered an important evolution in international trade rules and disciplines for agricultural and food products. There are strong indications, however,
that after six years of its existence, its basic aim and principles have not been fully accomplished.

It seems difficult to evaluate whether or not the multilateral negotiation is the most efficient forum to consolidate the intended process. The SPS Agreement of the WTO provides the discipline for the use of SPS measures. However, the adoption and implementation of provisions have been clearly unequal between Member countries.

It is possible to indicate, however, advantages of using the FTAA negotiations to improve the functioning of the SPS Agreement. Contrary to what happens in a tariff and many other traditional trade barriers, the regulatory framework of the SPS Agreement could be easily adapted from a multilateral to a regional context, such as the FTAA. Although there are no reasons to believe that the gains would necessarily be higher in the FTAA compared with the multilateral negotiation context, it seems easier to reduce some of its current constraints in the FTAA.

It is clear by now that information, which is a fundamental asset of the SPS Agreement, has also been responsible for most of its limitations. It seems very important to observe that the general functioning of the Agreement depends on gathering and analyzing information about international standards, measures introduced by current and potential trading partners, together with their respective risk assessment procedures. It is important to determine whether or not the individual country measures are based on risk-assessment and if these measures are non-discriminative. Therefore, the establishment of an efficient database system, easy to access, either to inform new measures as to consult, is fundamental. In fact, Enquiry Points at each country were required for these purposes. Therefore, it seems necessary to improve the Enquiry Points in order to make them more dynamic and effective. Since an efficient reference is highly desirable, it would be a great advance if they could work properly at least within the WH countries. This would substantially reduce great part of the costs that are currently associated to the system, both for developing and developed countries.
Another important aspect in this context that can be approached within the FTAA negotiations is the need of an official mechanism to validate a Notification and impede that it becomes an internationally accepted standard unless all the Members agree with it, and if not, they would be obliged to explain the reason. This could avoid the use of standards higher than what is required to assure the necessary level of protection.

Another important aspect in this context that can be approached within the FTAA negotiations is the need of an official mechanism to validate a Notification and impede that it becomes an internationally accepted standard unless all the Members agree with it, and if not, they would be obliged to explain the reason. This could avoid the use of standards higher than what is required to assure the aimed level of protection.

To avoid the criticism that has emerged with respect to the functioning of the transparency instrument of the Agreement of the WTO, it seems appropriate to implement formal mechanisms for dealing with comments and avoiding that these end up being ignored by the respondents, in face of a complaint. When an importing country does not take comments into account for any reason, it should be obliged to present a formal explanation of the reason.

Counter-notifications, for example, are expected to improve transparency on the application of SPS measures within the FTAA countries. A well-planned implementation strategy for this instrument has been considered fundamental for its effectiveness, which would be expressed by its capacity to expose and solve SPS conflicts. The definition of implementation mechanisms and responsibilities are currently being discussed by the FTAA Agricultural Group.

The interpretation of the Agreement in its current form is also a relevant issue. As discussed in the paper, there are several Articles that remain ambiguous and left to interpretation, which is done by the Panels in the WTO system in the first instance and as the highest instance of the Appellate Body. It would be helpful to have a regional forum to provide interpretation, particularly for those Articles essential to improve the implementation of the Agreement within WH countries.
Regionalism can also be easily explored in a more restricted environmental and geographical context, such as the FTAA.

Many of the problems that developing countries experience with the SPS Agreement are related to the lack of financial and human resources necessary to follow, understand and comment upon developments in their trading partners regulatory framework. This seems to result from the fact that similarly to what has been common within multilateral agreements under GATT or the WTO, the SPS Agreement was negotiated mostly between developed countries. A great part of the developing countries have signed – possibly for political purposes - the Agreement, without having been an active party of the negotiating process. As the process evolved they became increasingly aware of the difficulties to accomplish the disciplines of the Agreement. The issues highlighted in this paper provide a clear picture of the various constraints that are currently faced by developing country. There is a need to consider means to facilitate a more effective participation of these countries such that the Agreement’s instruments can be properly used and its provisions can be fully accomplished.

It is also important to stress that the practical difficulties of implementing SPS standards are by no means limited to developing countries alone, although this is not the focus of the present work.

Various papers about the subject affirm that the reduction and greater discipline upon traditional trade barriers have induced a search for alternatives, and that sanitary and phytosanitary measures have been used to substitute these measures. It seems appropriate, however, to conduct a quantitative study to evaluate if the products and product categories that have been subject to a greater number of regulatory changes are correlated to those that became less regulated by tariffs and other quantitative restriction.

Within the STCs, animal and plant health are the most frequently cited categories, since they reflect the major problems confronted by developing countries in their trade relations. These issues are related to the most relevant products traded
by developing countries, such as Commodities (Agriculture/Livestock), Fruit and Vegetables, and Meat.

Food safety has been the most important issue in the regulation of international SPS norms, as expressed by the Notifications. This can be explained by an increasing awareness of consumers with respect to the importance of food quality and safety. Food safety and Chemicals have been the most relevant issues in the SPS Notifications filed by developed countries, where populations have high living standards, particularly in the United States. This reinforces that developed countries have a stronger influence in the negotiations to establish multilaterally recognized rules and disciplines for SPS issues.

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