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The SPS Agreement: Barrier or Catalyst?

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This article aims at assessing whether the World Trade Organisation Sanitary and Phytosanitary (SPS) Agreement is acting as a barrier or a catalyst to agro-food exports from developing countries. It is based on a literature review. The findings indicate that there is evidence of mostly negative effects of the SPS Agreement on developing countries. Areas where difficulties have been met include the development capacity of developing countries, access to dispute settlement, and the risk assessment and equivalency provisions. In many cases, the costs for developing countries of implementing the SPS Agreement are very high compared to their development budgets, and this acts as a barrier and affects their ability to export. Clauses that have been useful to developing countries, thus indirectly facilitating trade, are the regionalisation and transparency principles. Thus, the requirement for more transparency has allowed the establishment of WTO enquiry points and notifications of new measures. Some developing countries have also benefited from technical assistance, and this has enhanced their trade opportunities.

Keywords: agro-food exports, developing country, SPS Agreement

Introduction

The value of international food trade has exceeded US\$980 billion (WTO, 2011). With globalisation, trade is likely to continue playing an increasingly prominent role in the provision of fresh and processed agricultural and food products for consumers. Food trade has subsequently spurred economic growth in many countries (Hufbauer, Kotschwar and Wilson, 2001; Jaffee, 2003). However, conventional, demand-led factors and the proliferation and strengthening of food safety and agriculture-related health measures at both the national and international levels could undermine the further expansion of agro-food trade. Indeed, the establishment of the WTO and the implementation of the Agreement on Agriculture have resulted in the erosion of tariffs for agricultural goods, with the concomitant rise of non-tariff barriers (WHO, 1998; Henson and Caswell, 1999). Thus, trade in agricultural and food products is increasingly being governed by many non-tariff measures, including food safety regulations. These have been spurred by a combination of factors such as food safety concerns, scientific advances, consumer preferences and strategic commercial interests (Jaffee and Henson, 2004). There are costs associated with meeting such requirements, making it difficult for developing countries to integrate with the global food trade.

According to Hobbs (2010), such measures are dealt with in the Agreement on Technical Barriers to Trade (TBT Agreement) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). The SPS Agreement is composed of 14 articles stipulating procedural and substantive requirements and three annexes with definitions and additional details on the procedural requirements. The disciplines apply to SPS measures, defined by the agreement as measures to protect human, animal or plant life and health within the territory of the member from risks of diseases, pests and disease-carrying organisms (Roberts, 2000). Thus, the SPS Agreement covers all relevant laws, decrees, regulations, requirements and procedures, including *inter alia*, end-product criteria, processes and production methods, testing, inspection, certification and approval procedures, animal and plant quarantine measures, provisions on relevant statistical methods, sampling procedures and methods of risk assessment, and packaging and labelling requirements directly related to food safety.

The SPS Agreement was drafted to prevent the use of SPS measures as trade barriers (WHO, 1998). It allows countries to take legitimate measures for the protection of human, plant and animal life and health, but these measures must be scientifically justified. Research on the impact of the SPS Agreement and SPS measures on agricultural and food exports has emerged in the last decade. The

literature presents divergent views on the impact of the SPS Agreement. The WTO agreements have mostly benefited developed countries, with the developing countries lagging behind (Das, 2008; Jaffee and Henson, 2004; Disdier, Fontagne and Mimouni, 2008; Wilson, 2002; Josling, Roberts and Orden, 2004). For some, implementation has produced mixed results (Thornsby, 2000) and has been a slow process, for instance in Central America (Hufbauer, Kotschwar and Wilson, 2001). The World Bank (2005) and Jaffee and Henson (2005) reported that some developing countries have benefited from the SPS Agreement and have integrated with the global food trade. In this article we analyse whether the SPS Agreement has acted as a barrier or a catalyst to agricultural and food exports from developing countries. The methodology adopted for this article hinges on a thorough literature review of related studies. In assessing the effect of the SPS Agreement, considerations were based on OECD (2003).

This article is structured as follows: section 2.0 analyses the effects of the SPS Agreement on developing-country exporters with respect to the provisions of the agreement, to determine whether the agreement has acted as catalyst or barrier to trade. General discussion and conclusions follow in section 3.0.

2.0 The SPS Agreement: Barrier or Catalyst?

There is evidence in the literature of the effect the SPS Agreement has had on the application of SPS measures by WTO members (Josling, Roberts and Orden, 2004; Roberts, 1998; Wilson, 2002). In the following sections, we further assess the effect of the agreement with respect to specific clauses.

2.1 Harmonisation

Article 3 of the agreement urges WTO members to implement international standards. The WTO has assigned rule-making responsibility in food safety to the Codex Alimentarius Commission (CAC). By promoting the use of international standards, the agreement automatically creates an advantage for trade. Indeed, standards are the least-trade restrictive measures available, and their advantages for trade have been reviewed extensively in the literature (Stephenson, 1997; Maskus and Wilson, 2000; Maskus, Wilson and Otsuki, 2001a; Maskus, Wilson and Otsuki, 2001b; Wilson, 2002). But in practice, countries can use standards and regulations for protectionist purposes when the standards are more restrictive than required. Meeting restrictive standards and regulations imposes excessive costs on consumers and reduces net national welfare (Maskus and Wilson, 2000; Maskus, Wilson and Otsuki, 2001a). As pointed out by Maskus and Wilson (2000), standards and regulations may impose

excess costs on consumers and firms by being too rigid; the OECD (1999) points out that up to 80 percent of all world trade is affected by standards.

According to Josling, Roberts and Orden (2004), the impact of harmonisation on trade appears to be constrained by the lack of specific international standards and by the normative considerations under the agreement. Of the SPS measures notified to the WTO by members during 1995 to 2002, most stated that no international standard existed for the measures. The authors are also of the opinion that adherence to general guidelines leaves scope for countries to develop different regulatory regimes to manage risks, so that in recent years, international standards organisations have contributed more to the trade system by setting out scientific approaches to regulations than by establishing standards that are identical across countries. This implies that the benefits from international standards have accrued more to consumers than to exporters.

Furthermore, while many countries use international standards as a basis for drafting SPS measures, this does not preclude the use of other, similar standards. This may be because the CAC only recommends that members “base” their standards on Codex standards. The fact that countries are basing their regulations on Codex standards does not necessarily mean that they transpose the standards directly into their legislation. There is thus still room for divergence and differences in interpretation from country to country. Indeed, each country has its own interpretation, especially with respect to the level of consumer protection and the use of international standards relative to the domestic ones (Bureau and Doussin, 1999). Moreover, Article 5 permits any country to set stricter measures if they are based on risk assessment (Victor, 2000).

The international standards-setting bodies were created prior to the negotiation of the SPS Agreement and are still adjusting to their new role. Moreover, developing countries have reported that they face difficulties participating in the harmonisation effort, so that often their requirements are not taken into consideration (Thornsbury, 2000; Nyangito, 2002; Foster, 2009; WTO, 2008¹; Neeliah and Goburdhun, 2010). The poor participation rate of low-income countries in these organisations implies that the SPS Agreement is largely governed by the interests of developed countries (Zarrilli, 1999).

A number of initiatives have been taken to improve the situation. The World Organisation for Animal Health (OIE) provides financial support for the participation of chief veterinary officers of its member countries in OIE standard-setting activities (WTO, 2010). Establishment of strategic Trust Funds is another important step forward in this area (Scott, 2007). The setting up of the Codex Trust Fund has

improved the situation: at the end of 2008, 230 participants from 85 developing countries had been supported by the fund to attend 20 Codex meetings (WHO, 2009).

Although mechanisms such as the Codex Trust Fund have boosted participation from developing countries since 2003 (Neeliah and Goburdhun, 2010), much remains to be done if the harmonisation process is to be beneficial for trade and equally accessible to all WTO members, whether financially or scientifically. It has been mentioned that despite CAC's efforts to provide assistance through the trust fund, regular participation by developing countries is still limited to a relatively small number of larger, middle-income countries (Henson and Humphrey, 2009). This is because the process by which international standards are made is lengthy: it is very costly to participate in all these meetings, and technical competence and backup have not always been adequate (Henson et al., 2000; Thornsbury, 2000; Nyangito, 2002; Scott, 2007; WTO, 2010²). Often developing countries were unable to participate in plenary sessions where proposed standards were being adopted (Prevost and Mathee, 2002).

2.2 Risk Assessment and Scientific Justification

“Members must ensure that their sanitary or phytosanitary measures are based on an assessment of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organisations” and the objective of minimising negative trade effects (WTO, 1995). Thus, the SPS Agreement echoes the quest for “science-based, rational decision-making” on questions of health risk (Peel, 2004) and places new emphasis on risk assessment (RA) related to the trade of safe food (Epps, 2008). Some progress has been achieved in the development of guidelines for RA (FAO, 2002); for example, Codex guidelines on RA have been developed. This clause has proved to be effective in a number of dispute cases involving developed countries, as reaffirmed by WTO panels and Appellate Body rulings (Bureau and Doussin, 1999).

But the requirement for risk assessment and scientific justification is still questioned (Epps, 2008), as not all countries can afford to meet it. Even developed countries have difficulty providing a risk assessment robust enough to be judged in conformity with the agreement's provisions (CTA, 2003). Moreover, the application of formal RA is a relatively new and controversial science (Hathaway, 1999; Boutrif, 2003; Prevost and Mathee, 2002; Peel, 2004), and the CAC has only recently developed guidelines. Both qualitative and quantitative RA are very costly, requiring expertise and appropriate sanitary infrastructure. This makes the RA clause a barrier for developing countries *de facto*. Therefore, those with limited budgets benefit from adopting international standards (WTO, 2003). Certain WTO members lack know-

how and laboratory equipment [G/SPS/R32 (WTO, 2010)] to carry out RA so as to present a well documented and supported case in order to challenge a developed country's SPS measure (Henson et al., 2000; Nyangito, 2002). Thus, it is clear that risk assessment and scientific justification are two areas where the problems outweigh the benefits. According to Roberts (1998) and Boutrif (2003), the RA methodology and practice could be a major cause for concern and a major challenge to effective enforcement of the SPS Agreement.

2.3 Dispute Settlement

Before the SPS Agreement came into force, settlement of disputes related to sanitary and phytosanitary regulation was essentially voluntary. With the introduction of the agreement the situation has changed from consensus-based dispute settlement to a "hard law", quasi-judicial system (Thornsbury, 2000; Athukorala and Jayasuriya, 2003). The new system is more elaborate and less prone to dissent. It is also stronger and has stringent time schedules that restrict the number of years over which a dispute can span (Victor, 2000). There has been a marked increase in the number of trade disputes brought to the DSB, the majority of which come from developed countries. Over 400 disputes have formally been raised under the WTO's dispute settlement system, of which 40 alleged violation of the SPS Agreement (G/SPS/53 in WTO, 2010). Fifteen dispute resolution panels have been established to examine complaints relating to the SPS Agreement, and in six of these cases the Appellate Body has also given a ruling (WTO, 2010). The relatively small number of SPS disputes may indicate that the institutional framework provided by the WTO through the SPS Committee has facilitated the reaching of mutually agreeable solutions to trade concerns (OECD, 2003), especially for developed countries.

Dispute cases illustrate legal interpretations of the SPS Agreement, albeit diverging (Gruszczynski, 2006; Das, 2008), and therefore are a very instructive mechanism for the assessment of the agreement (Victor, 2000). Roberts (1998) rightly argues that dispute settlement has been a catalyst in the removal of illegitimate SPS measures by certain nations, at least in the G-8³ nations involved at its negotiation stage: countries have either unilaterally modified regulations to comply with the agreement or have undertaken voluntary modification after bilateral technical exchange. The dispute settlement mechanism will certainly prompt countries to revise their SPS measures. An example of its success is the recognition of disease-free zones for Argentinean beef by the United States (Unnevehr and Hirschhorn, 1999). Dispute settlement under the SPS Agreement has been especially relevant in the case of clear violations (Thornsbury and Carlson, 2000), as was the case in the dispute between Canada and Australia on salmon exports.

On a more pessimistic note, the SPS Agreement has been less successful in resolving disagreements in the context of food safety, for example, the EU-US beef hormones case, because of the tension that exists between consumers' preferences and consumer protection on the one hand and consumers' gains from trade on the other (MacLaren, 2002). Moreover, Das (2008) reports that the mode of interpretation of the Dispute Settlement Body has left leeway for developed countries to use SPS measures for protectionism. Further, the cases that have been brought under the SPS Agreement have been the subject of considerable controversy. Current interpretations of dispute resolution cases see the dispute resolution bodies as constraining the freedom of member states to respond to the concerns of their citizens (Philbrick, 2008). Gruszczynski (2008) highlighted certain deficiencies in the DSB panel's analysis of EC-Bio Products. These include lack of consistency in the use of interpretive tools.

Developing countries are rarely able to bring disputes before the WTO Dispute Settlement Body because of the cost and the legal and technical expertise required for engaging in disputes. According to Boodhoo and Dabee (1998), the technicalities involved in the dispute settlement procedure may be difficult for Mauritius if it is to file a case or answer to a dispute filed by another member. It seems that the complexity of dispute settlement procedures represents a barrier to trade, as few developing countries are able to make judicious use of it. In fact, studies have shown that poor countries are still less likely than rich ones to participate in WTO disputes (Bown, 2005; Busch and Reinhardt, 2003), possibly because they lack legal resources and expertise or because, due to their small markets, they have limited ability to enforce panel rulings via trade sanctions and logically refrain from filing claims they cannot enforce.

2.4 Equivalence

The SPS Agreement introduces the concept of equivalence, which, in principle, is an advantage for trade. But it seems to be causing a problem. It has been reported that developed countries have been reluctant to accept the equivalence of measures set by developing countries because of lack of data on the developing countries' SPS systems or because they lacked trust in the SPS management capacities of developing countries (Henson and Loader, 2001). This lack of trust often has been based on real deficiencies in developing countries' food control systems (Jensen, 2002). Writing in 1999, Hathaway pointed out that demonstration of equivalence was a new area where much work remained to be done (Hathaway, 1999). This need for groundwork has been recognised at the level of the CAC, and guidelines have been prepared. However, few examples of equivalency have yet been achieved.

2.5 Special and Differential Treatment and Technical Assistance

Special and differential treatment is granted to allow developing-country members to build their SPS regulatory frameworks on scientific foundations. Assistance in the form of technical advice, expertise, financial assistance or procurement of equipment can be requested during SPS Committee meetings.

The WTO has set up technical assistance activities in the SPS area to contribute to strengthening the capacities of developing-country members in meeting regulations for market access of agro-food products (WTO, 2010). The activities increase participants' awareness about rights and obligations under the SPS Agreement and its implications at the national level. The programmes of national and regional activities cover presentations on transparency obligations, dispute settlement, implementation problems, specific trade concerns and technical/scientific issues such as risk analysis and equivalence and include the work undertaken by the three standard-setting organisations referenced in the SPS Agreement (Codex, IPPC and OIE). During the period 1994-2009, the WTO Secretariat undertook a total of 198 technical assistance activities on the SPS Agreement, including 70 regional (or subregional) and 85 national workshops (G/SPS/53 in WTO, 2010). Around \$65 to \$75 million have been spent yearly by bilateral and multilateral agencies on various programmes to strengthen trade-related capacities in developing countries, in addition to a large number of private sector initiatives (Jaffee and Henson, 2004). Such assistance has boosted trade for certain developing countries (Henson ad Jaffee, 2008).

While it is clear that the SPS Agreement supports the provision of special and differential treatment, this obligation is not binding (Prevost and Mathee, 2002). According to Henson et al. (2000), developing countries considered that developed countries did not take sufficient account of the situation of developing countries before setting SPS measures. Because of concerns of developing-country members regarding the special and differential treatment provision under the agreement, a number of tools have been developed to help members understand and implement of the agreement. As well, in October 2006 the Secretariat prepared a preliminary analysis of SPS-related technical assistance with the objective of addressing issues regarding the effectiveness of assistance provided (G/SPS/53 in WTO, 2010).

Effective implementation of SPS measures in developing countries depends on the provision of adequate financial and technical assistance (Athukorala and Jayasuriya, 2003; Disdier, Fontagne and Mimouni, 2008). According to the SPS Agreement, WTO members must facilitate the provision of technical assistance to other members, especially to developing-country members. The WTO has also enlisted the support of

other international organisations like the World Bank and the Food and Agriculture Organisation in its assistance programme.

Since 1995, many WTO members have benefited from technical assistance programmes based on the Trade Capacity Building Database (TCBDB) (WTO, 2008). Grants or loans are provided to ensure that members are not prevented from adopting or enforcing measures necessary to protect human, animal or plant life or health, as per the SPS Agreement. A Standards and Trade Development Facility (STDF) has been established to promote coordination of technical assistance to developing and least-developed WTO members. The STDF defines four categories in which technical assistance is available, specifically, general, food safety, animal health and plant health. For instance, 93 technical assistance activities related to food safety have been carried out since 2001; examples are capacity building in China and Guyana and strengthening fishery health products in ACP countries (WTO, 2008).

The main problem related to special and differential treatment has to do with transparency regarding the measurement of the direction and the extent of assistance (WTO, 2010). A review by Wiig and Kolstad (2005) pointed out that assistance was given in a haphazard manner and was often based on political considerations. It is even conceded that technical assistance is limited (AITIC, 2009; Scott, 2007). Thus, securing technical assistance is still a problem. In fact, questionnaires on technical assistance sent by the WTO to its members (G/SPS/W/113 in WTO, 2010) indicate that there is still a need for assistance in areas such as risk assessment, plant health, quarantine procedures, etc.

2.6 Transparency

The concept of transparency (articles 5.8 and 7 and Annex B) obliges members to exchange information on their respective sanitary measures through the establishment of national enquiry points, national notification authorities and the SPS Committee. The requirement for more transparency has proven to be the most successful aspect of the agreement (Roberts, 1997; Roberts, 1998). The establishment of WTO enquiry points and notifications of new measures to the SPS Committee have increased transparency. This system facilitates information exchange and helps to enhance compliance of the exporter with importer's regulations. The fact that regulatory measures can be discussed and adjusted to reflect others' trade concerns is a very important advantage (Scott, 2007) and can be put to good use by developing countries.

Notifications have been increasing, especially after 2000 (see figure 1). A total of 9,426 notifications were submitted to the WTO as of 31 August 2008, excluding corrigenda, addenda and revisions (WTO, 2010). The notifications requirement has increased transparency, thus facilitating both compliance and complaints by trading

partners. Indeed, advance notice of new or modified measures allows firms to change production methods to meet new import requirements, thereby minimising transaction cost disruptions that such changes can cause to trade flows (Josling, Roberts and Orden, 2004).

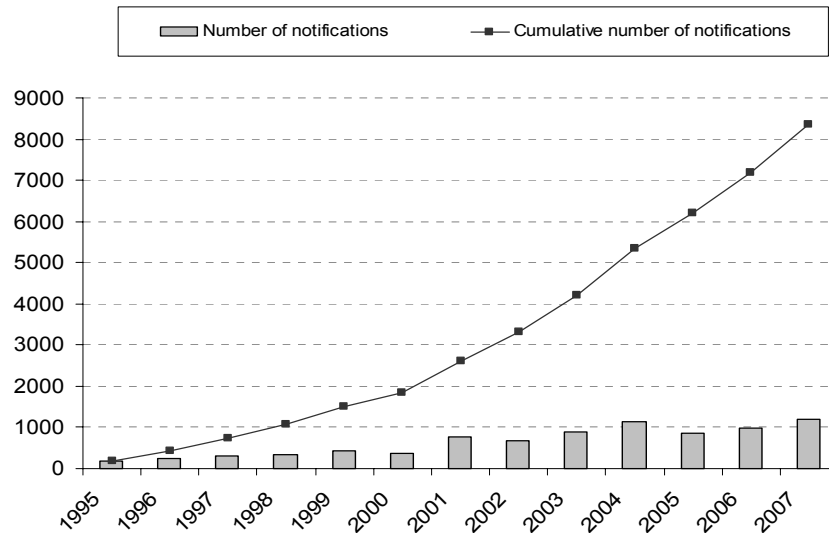


Figure 1 Number of SPS notifications circulated from 1995 to 2007.

Data Source: WTO (2010)

The increase in notifications may be credited to an increasing application of the principles of the SPS Agreement or to the changes in agro-food trade and the growing complexities of SPS policies (OECD, 2003). However, statistics on notifications do not necessarily give an accurate indication of the extent to which new or changed SPS measures are being *adopted* by WTO members. The specific trade concerns raised at meetings of the SPS Committee include failures to notify measures (WTO, 2010). Out of the 153 WTO members, 98 (64 percent) have to date submitted at least one notification to the WTO. As of October 2008, 133 out of 153 (87 percent) WTO members had identified a national notification authority (NNA). Those which had not done so included 13 least-developed countries (LDCs) and 7 developing countries (G/SPS/NNA/14 in WTO, 2010). One hundred and forty-two members (93 percent) had established an SPS enquiry point.

As of the end of December 2009, the share of notifications submitted by developed-country members had reached 53 percent, while submission by developing-country members was 46.6 percent, with the rest from LDCs. The number of

notifications from developing-country members has steadily increased over the years (WTO, 2010). The majority of notifications are still from developed countries like the United States, though countries like Mexico are associated with increased regulatory activity due to regional agreements like the NAFTA. Countries like the United States, China and Japan have in fact taken the opportunity under the SPS Agreement to bring about significant administrative and regulatory reform (Livshiz, 2007; Biukovic, 2008), which could explain this notification pattern.

The transparency provision has already improved information exchange among members, including developing countries. Countries like the Gambia and India have been able to comment on the EU's notification relating to new standards for aflatoxins. Unnevehr (2001) pointed out this was clear evidence of the agreement's usefulness to developing countries, as it prompted a revision of the said standards by the EU.

The quality of and access to information on notifications remains problematic. To improve the implementation of transparency provisions, the WTO produced a handbook, "How to Apply the Transparency Provisions of the SPS Agreement" in 2000 and updated it in 2003 (WTO, 2010). Moreover, an SPS Information Management System was launched in 2007 to facilitate searching of notifications. In 2008, the SPS Committee also adopted revised procedures for transparency which provide additional information on the comment period and encourage the notification of measures even if they conform to international standards. Additional mechanisms have been put in place to improve the management of the large volume of SPS-related information and the translation facilities (G/SPS/53 in WTO, 2010).

Some developing countries nevertheless face difficulties in complying with their transparency obligations (Henson et al., 2000; Nyangito, 2002; WTO, 2006; WTO, 2010⁴), although guidelines have been prepared (WTO, 2000). For instance, not all developing countries that are WTO members had established enquiry points as of February 2007 (WTO, 2007). Indeed, implementation of transparency obligations implies a basic investment and a minimum staff [G/SPS/GEN/497 (WTO, 2010)], and this is not always within the budgets of developing countries (Neeliah and Goburdhun, 2010).

2.7 Adaptation to Regional Conditions, Including Pest- or Disease-free Areas and Areas of Low Pest or Disease Prevalence

Article 6 specifies that disease-free areas and areas of low pest or disease prevalence should be treated differently from areas where disease is prevalent. In the past, importing countries often required the whole exporting country to be free from a

particular disease before it would be granted access to trade. Now, products coming from disease-free areas that may not correspond to political boundaries are to be considered on the basis of their disease status. This is a big advantage to many developing countries which export, for example, meat or papaya produced in several regions. It remains the exporting country's responsibility to demonstrate that a particular area is disease free, and the exporting country must allow inspectors from the importing country to verify the controls in place (WTO, 2003).

2.8 The SPS Committee and Specific Trade Concerns

Mehta and George (2003) consider that an indicator of developing countries' low participation in the SPS Agreement is the attendance rate at the meetings of the SPS Committee. Developing countries have a poor attendance rate (Mehta and George, 2003; OECD, 2003), which prevents them from effectively addressing their concerns to the committee. For instance, India does not make sufficient use of the SPS Committee to challenge specific SPS measures and discuss SPS-related issues (Das, 2008).

Time has been devoted to the consideration of specific trade concerns raised by members at the SPS Committee meetings since 1995, thus helping to avoid potential trade conflicts (OECD, 2003). According to Jaffee and Henson (2004), the number and nature of complaints and counter-notifications (specific trade concerns) made through the SPS Committee can be used as an indicator to depict the nature and breadth of the challenges to standards and regulations by developing countries. Two hundred and ninety specific trade concerns were raised between 1995 and 2009. Figure 2 shows the number of new concerns raised each year; 13 new concerns were raised in 2009.

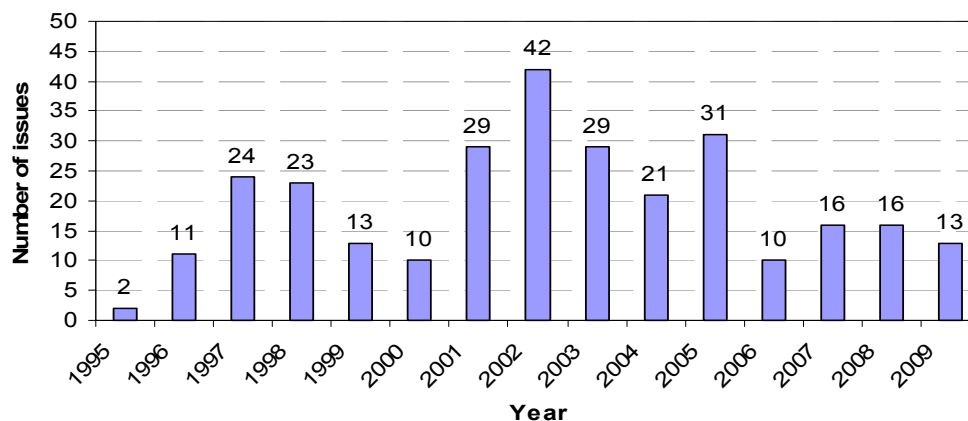


Figure 2 Number of new issues raised.

Source: G/SPS/53 in WTO, 2010

Seventy-nine trade concerns have been reported resolved out of the 290 trade concerns raised since 1995, while no solutions have been reported for the remaining 193 trade concerns (WTO, 2010). Overall, 28 percent of trade concerns related to food safety concerns, 26 percent related to plant health, and 6 percent concerned other issues such as certification requirements or translation. Forty percent of concerns raised related to animal health and zoonoses (WTO, 2010).

Developing-country members are particularly active regarding this agenda item in the SPS Committee meetings, showing their preference for softer structures than the formal dispute settlement mechanism to resolve trade issues. Since 1995, developing-country members have raised 146 trade concerns (figure 3) compared to 190 raised by developed-country members and 3 raised by least-developed country members. The fact that developed countries outnumbered developing countries suggests that access to the same scientific information and technologies still leaves room for disagreement over food safety measures (Josling, Roberts and Orden, 2004).

This growing number of concerns provides only a very crude indicator (Jaffee and Henson, 2004) of the impact of the SPS Agreement. According to an analysis by Josling, Roberts and Orden (2004), developed countries were most often the source as well as the target of specific trade concerns that identified food and feed regulations as unjustified trade impediments, indicating that some gaps remained in convergence around SPS regulatory principles and that developed countries failed to agree on an acceptable level of protection. Both developed and developing countries cited the measures of developed countries in the majority of trade concerns related to human health.

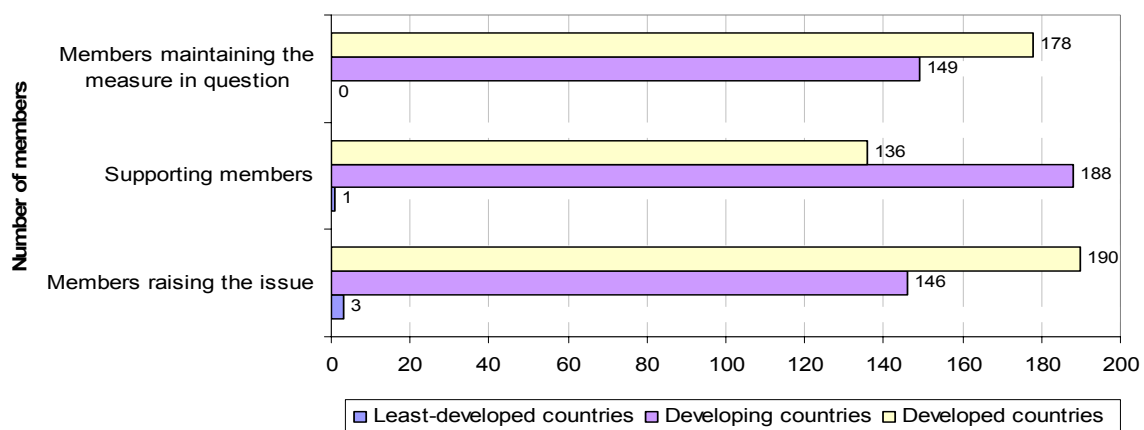


Figure 3 Participation by WTO members (1995-2009).

Source: G/SPS/53 in WTO, 2010

According to Jaffee and Henson (2004), this suggests that developing countries used the formal review and complaint process of the SPS Committee to register their concerns with respect to a significant number of notified measures. But the level of developing-country trade that has been affected cannot be quantified. Moreover, complaints from developing countries emanated mostly from a few developing countries such as Argentina, Brazil, Chile and Thailand. Yet the SPS Committee remains an effective platform for resolution of trade conflicts, and one that seems to be more accessible than the dispute settlement mechanism.

2.9 Changing Influence of SPS Measures

Although the text of the SPS Agreement is in itself very short, it leaves room for interpretation, especially with respect to provisions relating to the ability of a country to choose its particular level of consumer protection (Bureau and Doussin, 1999). This creates the possibility for conflict among countries, as seen through the disputes that have arisen due to the SPS Agreement (Gruszczynski, 2006). The divergent food safety, plant and animal health regulatory requirements (SPS measures) can be important trade determinants. All these factors combined pose a major challenge for developing countries by acting as a deterrent to trade.

2.9.1 Negative effect of SPS measures on agro-food trade

There is general agreement in the literature over the negative effect of SPS measures on trade both before and after the implementation of the SPS Agreement (Petrey and Johnson, 1993; Ndayisenga and Kinsey, 1994; Thilmany and Barrett, 1997). SPS measures can especially be detrimental to exports from developing countries (Henson et al., 2000), because the latter lack the necessary food safety infrastructure to participate in the development of standards and to comply with emerging requirements, for instance, testing and certification facilities (OECD, 1996; Wang and Winters, 1997; Oyejide, Ogunkola and Bankole, 2000; Maskus and Wilson, 2001; Hufbauer, Kotschwar and Wilson, 2001; Caswell and Wang, 2001; Nyangito, 2002). As a result, such countries can only exercise their rights and meet their obligations as members of the WTO to a limited extent (Wilson, 2000). Mutusa and Nyamandi (1998) studied data on border inspection and detention of food exports from Africa and found that the most important difficulty faced by developing countries from Africa related to the lack of financial resources for implementation of the control requirements of developed countries. Henson et al. (2000) associated the problems faced by developing countries with:

- their incompatible systems of production and marketing;

- their limited resources and infrastructure, which constrain their ability to comply their poor access to appropriate scientific and technical expertise.
- with SPS requirements and even to demonstrate compliance;

SPS measures are seen as a major obstacle to exports when compared to other obstacles such as transportation costs, quotas and tariffs. Particular markets for which SPS requirements have been considered to present the most serious impediment to trade include the EU, the United States and Canada (Henson and Loader, 2001).

A number of quantitative studies have also been carried out to estimate the impact of standards and food safety regulations on trade, as highlighted recently by Karov et al. (2009). In 1996, it was estimated that the impact of SPS measures on U.S. exports of agricultural products was about \$4,416 million and that the impact of food safety standards themselves amounted to about \$2,288 million (Roberts and De Remer, 1997; Thornsby et al., 1999). The authors concluded that SPS measures were the most common factor that threatened, constrained or blocked the exports.

Otsuki, Wilson and Sewadeh (2001) estimated the financial implications of the strengthening of the EU regulation on aflatoxin levels in food on African exports of cereals, dried fruits and nuts to Europe. The EU measure could potentially decrease exports by about 60 percent, representing US\$670 million, when compared to the effect of internationally based regulations, while reducing health risk by about 1.4 deaths per billion a year. Wilson and Otsuki (2001), in an extension of the former study to a larger number of countries, argued that the use of the international standard could increase world exports by US\$38.8 million when compared to the situation where national standards are used. Another study by Wilson and Otsuki (2004) suggested that a tightening of pesticide regulations by 1 percent could lead to a 1.63 percent decrease in banana imports, representing a significant impact for countries relying on the export of bananas. They also inferred that a lack of consensus on international standards and divergent national pesticide regulations were costly.

More recently, using a gravity model, Gebrehiwet, Ngqangweni and Kirsten (2007) estimated the trade effect of total aflatoxin levels set by five OECD countries on South African food exports and concluded that stringent SPS measures are limiting trade markedly. Using an econometric approach, Disdier et al. (2008) demonstrated that SPS measures negatively influenced imports from Organisation for Economic Cooperation and Development (OECD) countries, especially exports from developing countries and least-developed countries to OECD countries. Exports to the EU seemed to be more negatively affected by SPS measures than were exports to the other OECD countries. However, trade in some sectors could be improved with SPS measures.

2.9.2 Positive influence of SPS measures on agro-food trade

The introduction of the disciplines and requirements under the SPS Agreement has, however, also spurred growth in agro-food exports from certain developing countries. Indeed, the disciplines have reduced the opportunity for members to use trade-restrictive measures.

Compliance with the requirements of the SPS Agreement demands the infrastructure necessary for countries to establish the confidence of their trading partners in their agro-food exports. The SPS infrastructure is the institutional set-up required to comply with SPS requirements of trading partners and to demonstrate compliance (Henson et al., 2002) and includes the relevant mix of inspection, testing, certification, metrology and accreditation activities (ITC, 2005). One direct spillover of the WTO SPS Agreement has therefore been the revamping of the SPS infrastructure in many countries. Following accession to the WTO, many countries revised their food control strategies and modernised their food legislation, for instance, countries in Eastern and Central Europe (FAO, 2002).

A new school of thought supports the theory of *standards as catalyst*, or the *competitiveness* view. Certain developing countries can use, and are using, compliance with SPS measures to gain a competitive edge, for instance as demonstrated by Thai and Kenyan horticulture, Thai and Nicaraguan shrimp and Indian spices (World Bank, 2005; Jaffee and Henson, 2004; Henson and Jaffee, 2008). The standards, in this case, act as a bridge between the consumer requirements and the distant supplier and promote consumer confidence, contribute to the modernisation of the developing country's export supply chains and the management of SPS measures by government, and have other spillover effects on the domestic food control systems, including long-term sustainability and profitability in trade.

Jaffee and Henson (2004) and Diaz Rios and Jaffee (2008) also argue that standards are not always barriers to trade. They take issue with the Otsuki, Wilson and Sewadeh (2001) study, considering it to exaggerate the predicted effect of the new EU aflatoxin standard. According to Jaffee and Henson's (2004) simulation, only a small number of consignments of groundnuts were rejected by EU member states because of aflatoxin. They suggest that the near-term "loss" of African trade due to the more stringent EU measures has actually been less than expected. While African exporters have been "losers", China and Latin American countries have upgraded their production and supply chains to meet the stricter aflatoxin requirements imposed by the EU (Diaz Rios and Jaffee, 2008).

3.0 General Discussion and Conclusions

The SPS Agreement established rules for the legitimate application of food safety and agricultural health measures. But it was not expected to remove all barriers to agricultural and food products trade. Its potential to affect trade lies mainly in the areas where there are no agreed international standards and where there is limited scientific knowledge.

From the literature, there is evidence of both the positive and negative effects of the SPS Agreement on WTO members. Reviews of the implementation of the SPS Agreement were carried out in 1999, 2005 and 2009 (G/SPS/36 in WTO, 2010; G/SPS/53 in WTO, 2010), and in the course of these reviews developing-country members pointed out that they faced various problems. There was a lack of infrastructure in developing countries, and the capacity to engage in international standards development activities was also limited. They were also constrained by their relative inability to access information on standards or develop standards. The lack of tools to implement commitments and exercise rights, for example, equivalence, the insufficient time to comment on notifications (Zarrilli, 1999; WTO, 2001) and the lack of international consensus standards for food safety were additional problems.

In the early years of the implementation of the SPS Agreement, it was recognised that the benefits reaped from it would be dependent on the country in which it was being applied (Whitehead, 1996). However, in many cases, if not in most, developing countries find it difficult to meet the target levels established by importing countries. Very often, they lack the food control infrastructure needed to meet the requirements of the SPS Agreement (Zarrilli, 1999; Wilson, 2002; Nyangito, 2002), to implement commitments such as transparency obligations and risk assessment, to exercise rights, and to fully engage in international standards development activities. Finger and Schuler (1999) and Maskus, Wilson and Otsuki (2001a) have argued that the costs of implementing the SPS Agreement for developing countries are very high compared to their development budgets, and thus they do not participate in the implementation of the agreement as equal partners compared to developed countries. Indeed, considerable investment is required to improve food safety capacity in developing countries so as to comply with the SPS Agreement and regulatory requirements in export markets (Henson, 2003).

The achievements of the WTO SPS mechanism for enforcing effective discipline over the use of SPS measures have lagged behind initial expectations (Athukorala and Jayasuriya, 2003; Roberts, 1998). According to Thornsbury (2000), the implementation process of the SPS Agreement has slowly progressed, while the setbacks have been widely publicised. Less successful areas include the role of

politics, the development capacity of developing countries, access to dispute settlement, the risk assessment and equivalency provisions and national sovereignty debates. For instance, Das (2008) argues that the SPS Agreement has not prevented SPS measures from becoming non-tariff barriers, taking the case of India. She attributes this to the fact that the agreement provides members with “space” to use SPS measures for protectionist purposes. Jinji (2009) is of the same opinion.

Moreover, the fact that scientific, technical and financial resources are inadequate implies that activities such as the preparation of technical regulations, the effective functioning of national standardising bodies and bodies responsible for conformity assessment, and participation in international standard-setting organisations are constrained. This is especially relevant for developing countries. Indeed, most developing countries find it difficult to meet the target levels established by importing countries, especially because of the implementation costs, considered to be very high compared to their development budgets (Finger and Schuler, 1999; Murray, 2009).

Different WTO members vary in their understanding of the SPS Agreement and their propensity to make the most of it. The agreement also constrains the ability of governments to promulgate measures in instances where scientific knowledge is still poor and fails to provide for imperfectly understood risks that are based on the precautionary principle. Roberts (1998) and Boutrif (2003) opine that the risk assessment methodology and practice will be a major cause for concern and a major challenge to effective enforcement of the SPS Agreement.

In the implementation of clauses such as the minimisation of the protectionist and unjustified discriminatory use of standards and the enhancement of transparency and harmonisation, experience has been mixed, possibly because of the complexities in managing food safety and animal health and the specific shortcomings of the SPS Agreement (Jaffee and Henson, 2004). Das (2008), for instance, provided examples of Indian experience in a recent article using various indicators such as notifications submitted to the Negotiating Group on Market Access (NGMA) as a part of the Non-agricultural Market Access (NAMA) negotiations of the ongoing Doha Round of trade talks.

On the other hand, Josling (2006) considers that the “multilateralisation of food rules has worked because no nation wants to revert to the ancient regime”. There are cases of accelerated schedules for making long-standing measures consistent with the obligations under the SPS Agreement; for example, Japan ended a 46-year-old ban on several tomato varieties grown in the United States based on the scientific evidence that they were not afflicted with tobacco mould disease (Josling, Roberts and Orden, 2004).

Clauses that have been relatively more successful are the regionalisation and transparency clauses. The SPS Agreement has also contributed to freer trade. The obligation to base regulations on scientific risk assessment has reduced the freedom of governments to use arbitrary regulatory interventions and therefore promoted convergence among countries. This obligation has also led to the resolution of many trade issues through the WTO without resort to dispute settlement and regulatory review (Josling, Roberts and Orden, 2004; OECD, 2003). Likewise, the requirement to use the least-trade restrictive measure to achieve the appropriate level of protection contributed to the resolution of many of the complaints related to the EU's proposed aflatoxin regime.

The use of international standards has settled some trade disputes; for example, based on OIE's assessments, bans on the imports of dairy products in the wake of the Bovine Spongiform Encephalopathy crisis were lifted by some countries (Josling, Roberts and Orden, 2004). Moreover, the Agreement has had a positive effect for developing countries in that it has forced developed countries to provide more technical assistance to develop their infrastructure, leading to the development of recipient countries in terms of GDP, employment creation, social and environmental improvement (CTA, 2003).

Some developing countries have been able to derive benefits from the implementation of the SPS Agreement. For instance, Mauritius has availed itself of its rights under the Agreement both to prevent its trading partners from using unjust measures without scientific justification and to secure technical assistance (Neeliah and Goburdhun, 2010).

This review has highlighted the negative effects of the SPS Agreement on developing countries as they appear in the literature. It has, however, also pointed out a number of areas in which the Agreement has been useful in facilitating trade. It is concluded that reviews of the Agreement, punctually conducted, should take greater account of the needs of developing countries so that they can successfully export agro-food products to developed countries.

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Endnotes

1. G/SPS/441-2003
2. G/SPS/441-2003
3. G-8: Argentina, Australia, Canada, EU, Japan, New Zealand, Thailand and United States.
4. G/SPS/510; G/SPS/GEN/441