Food Safety Issues, Trade and WTO Rules: A Developing Country Perspective

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Abstract: The SPS Agreement and the related WTO dispute settlement mechanism are an important first step in strengthening the global trade architecture, bringing in greater transparency and orderly conditions to world food trade. However, implementation of the new trade rules has turned out to be a more complex task than the traditional market access issues handled by the WTO. Several factors, including inadequate financial and technical resources, have constrained developing countries from becoming effective participants in the implementation process, and there is widespread suspicion that SPS regulations are being used as hidden protectionist devices by developed countries. However, it must be noted that, despite all the problems, some developing countries have been quite successful in penetrating developed country food markets; they have done so by accepting the consumer preferences and standards in quality-sensitive high-income markets and implementing domestic supply-side measures. The best strategy for developing country food exporters is to learn from the experiences of these successful exporters, while making full use of available international assistance initiatives. Most importantly, the task of complying with SPS standards should be viewed not just as a barrier but also as an opportunity to upgrade quality standards and market sophistication in the food export sector.

Key words: international food trade, food safety issues, SPS Agreement, WTO

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1. INTRODUCTION

In recent years, processed food exports to developed country markets have emerged as a potentially major new source of dynamic export growth for many developing countries. However, exploiting this potential poses many challenges. In particular, the capacity of developed country exporters to penetrate these markets depends critically on their ability to meet increasingly more stringent food safety standards imposed in developed countries. Not only are these standards typically much higher than those prevailing in developing countries, and often difficult and costly to meet, but they are also subject to frequent changes. Such changes are to be expected, given advances in scientific knowledge about health hazards, improvements in food processing technology, and the highly income-elastic consumer preferences for higher safety standards. However, some of the changes have provoked strong suspicions that food safety standards are being used as a non-transparent, trade impeding protectionist tool, rather than as a legitimate instrument for the protection of human, plant and animal health.

In principle, the Sanitary and Phytosanitary (SPS) Agreement and the associated WTO dispute settlement mechanism can ensure that food safety standards are not abused or misused for such protectionist aims. But in practice, developing countries are usually placed at a disadvantage when it comes to making use of these

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procedures, being hampered by their limited capacity to access and absorb best practice technology and information and constrained by inadequate resources from challenging perceived inequities. As a result SPS related issues have become a source of tension and friction in international trade negotiations.

Unfortunately, this is a problem that is likely to get worse. First, food safety is a 'luxury' good whose demand rises as income levels rise, and greater prosperity tends to be accompanied by increased demand for more stringent SPS standards in developed countries. Many in developed countries see the much laxer SPS standards that often prevail in developing countries as a threat precipitating 'a race to bottom'. Second, and perhaps more importantly, as traditional trade barriers such as tariff and quantitative restrictions continue to decline, protectionist interests are likely to make increasing use of food safety regulations and other technical barriers to block trade.

The purpose of this paper is to review the key issues related to the trade effects of food safety standards in the context of the current debates on strengthening the global trade architecture for development. The paper is structured as follows: Section 2 surveys the emerging trends and patterns of processed food exports and their implications for development policy in agricultural-resource rich developing countries. Section 3 discusses the main channels through which food safety standards impact on world food trade with emphasis on problems faced by developing countries. Section 4 introduces the legal framework set up under the World Trade Organisation (WTO) and assesses its achievements in redressing possible trade-impeding effects of food safety regulation. The paper ends in Section 5 with some concluding remarks on policy options.

2. TRENDS AND PATTERNS OF PROCESSED FOOD EXPORTS

The past three decades have witnessed a dramatic transformation in international division of labour within the global agro-food system. The relative importance of 'classical' export commodities traded mostly in raw form (coffee, tea, sugar, cocoa and so an) have sharply eroded as a result of rapid expansion of trade in products such as fruits and vegetables, poultry, fish and diary products, which are exported in processed form. The share of these new dynamic exports (henceforth referred to as

'processed foods'[1]) in total world agro-food trade increased from 27% in 1970 to 44.6 percent in 19980 and to 58 percent by the end of 1990s. The increase is sharper for developing countries (from 39 percent in 1980 to 52 percent in 1999) compared to developed countries (from 47 percent to 61 percent).

The share of processed food in total merchandise exports has, however, remained virtually unchanged for the two country groups and in aggregate, reflecting the faster growth of manufacturing exports compared to other commodity categories. The rapid growth of manufacturing, however, needs to be treated carefully because of the high import content of the products involved, the degree of which may have increased over the years because of the on-going process of product fragmentation in international production (Yeats 2001). If the export growth rates were estimated in net terms (e.g. gross exports – imported inputs) the relative growth of processed food in world trade would turn out to be much larger.

The most prominent of the new dynamic items exported by developing countries has been processed fish, whose share in total processed food exports from developing countries increased from 9 percent in 1970 to 30 percent in 1999 (Table 2). There has also been an increase in the share of preserved fruit in processed food over time, though not as spectacular as in the case of processed fish. On the other hand, shares of `traditional' items such as meat products, sugar and molasses, animal feeds, and vegetable oils have either fallen or fluctuated erratically over time.

Powerful forces on both demand and supply sides have underpinned this far-reaching change in world agricultural trade (Athukorala and Sen 1998, Henderson *et al*. 1996, Watts and Goodman 1997). On the demand side, 'internationalisation of food habits' - the increased importance of imported processed items in consumption patterns in developed countries as well as in large sections of the populace in many developing countries - appears to play a key role. Factors such as international migration, the communications revolution and international tourism have contributed to this phenomenon. This significant demand-side impetus seems to have been supported by important supply-side developments such as improvements in food technology, refrigeration facilities and transportation that have made processed food

[1] A widely used alternative term is 'high-value foods'.

items easily tradable across national boundaries. In sum, the emergence of processed foods in world trade is a structural (rather than a 'passing') phenomenon, which is deeply embodied in the ongoing process of global economic integration. This structural shift has also been aided by trade liberalisation initiatives under various rounds of world trade negotiations.

Table 3 provides data on export performance by individual countries. Among the 37 countries listed in the tables[2], some countries have performed far better than others in this area. For example, Bangladesh, Bolivia, Chile, Indonesia, Korea, Malaysia and Thailand had annual growth rates close to or exceeding fifteen percent in 1970-1999.[3] In contrast, Cameroon, the Dominican Republic, Ghana, Nicaragua, Nigeria, Sudan, Senegal, Tanzania and Zambia exhibited annual growth rates of five percent or less. There is some indication that generally countries belonging to the high- and middle-income groups (following the World Bank classification) have performed better compared to countries in the low-income category. Among the low-income countries, Bangladesh is a notable exception, with a growth rate of processed food exports that is more than double that of any other low-income developing country.

The new export opportunities in processed food deserve special attention when considering export development policy options for agricultural resource-rich countries for a number of reasons. First, there is evidence that export diversification into this commodity category will bring in significant terms of trade gains. Whether export diversification will lead to terms of trade gains depends on the degree of income and price elasticity of demand for the commodities concerned. The data we have already

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2 We started extracting data for all developing countries (96) covered in the UN data system. The countries finally chosen for the study (37 in number) are the ones for which data are available in the required form on a consistent basis for the period 1980-1999. Despite data availability, the city states of Hong Kong and Singapore are excluded from the country coverage as, given the nature of the resource endowment, food processing was never an export option available to them. A significant amount of processed food from other neighbouring resource-rich countries is routed through these counties as part of entrepot trade. They also undertake some final stage processing of these items.

3 Another country which has experienced high growth in processed food exports (16% during 1980-94) in recent years, yet we were not able to include in our country sample for want of required data coving the full study period, is China. For details on China's experience in this regard see Fang (1996).

analyzed relating to overall demand trends suggests that processed food exports are superior to primary products in terms of these criteria. The available estimates of income and price elasticities of demand in food trade further corroborate this view (Islam 1988, Islam and Subramanian 1989, Fang 1996). Preliminary results of our on-going research on agricultural exports from Thailand as part of the present research project also suggest that terms of trade movements of processed fish and fruit exports for the past three decades closely resemble that of traditional manufactured goods.

Second, final stages of food processing appear to be labour-intensive. This is in contrast to the situation in the production processes of resource-based products (e.g. further processing of resources such as minerals and timber) in which the dominant costs are capital charges and raw material inputs, and the most important trend in factor substitution appears to be towards greater capital intensity to reduce raw material costs (Roemer 1979, Findlay 1985). This implies that the expansion of the processed food sector can have a strong positive effect on employment generation in the typical 'labour-surplus' developing economy. While further research is needed on this subject, this view finds support from the available factor proportion estimates for manufacturing production in China (Fang 1996) and Malaysia (Athukorala 1998, Chapter 7).

Third, in terms of potential net export earnings and addition to national income (GNP), processed food appears superior to the 'conventional' manufactured exports. Most conventional manufacturing exports from these countries (such as garments, toys, sport goods, electronics components etc.) are based on simple domestic processing of imported inputs. Processed food products naturally have a greater domestic input content and hence a greater domestic value added compared to these products. Finally, the expansion of these exports is a powerful vehicle for linking the rural economy in a positive way with the on-going process of economic globalisation.

3. FOOD-SAFETY STANDARDS AND TRADE: THE STATE OF THE DEBATE

Food-safety standards are measures of compliance regulations enacted by governments to protect the health and safety of their citizens and the environment in which they live. Following the promulgation of the Sanitary and Phytosanitory (SPS)

Agreement in 1994 as part of the outcome of the Uruguay Round of world trade negotiations, these standards are now popularly known as 'SPS measures/standards'[4]. According to the Agreement, SPS measures include,

> All relevant laws, decrees, regulations, requirements and procedures including, *inter alia*, end product criteria; processes and product methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transportation of animals and plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety' (Annex A (1)).

There are notable differences between classical trade barriers (tariffs and quantitative restrictions) and product standards and regulations in terms the economic implications of their implementation/abolition. The latter are discriminatory border taxes, which generally result in inefficiency in resource allocation and reduce consumer welfare. There is a general consensus among economists now that, except under very special circumstances, countries generally benefit from their removal or reduction, unilaterally or through collective effort. By contrast, at least in principle, SPS standards are introduced by government in the interest of the society, to achieve the important social objective of protecting public, animal and plant health and to protect the environment. In other words food-safety is a 'public good' that would go largely unserved in a private market (Kindleberger 1983). Social losses arising from their elimination could well exceed the associated economic efficiency gains.

In theory, establishment of SPS standards (or other technical standards) could facilitate trade through reducing transaction cost, by assuring consumers that the food they consume is of an acceptable standard and reducing the cost of uncertainty that they face in assessing product quality. Universally accepted standards should also guide exporters as to the expectations of importers concerning food quality and safety, leading to reduction in trade frictions. Standards can serve to signal quality in foreign markets and thus contribute to increasing elasticity of substitution between similar goods produced in different countries, thereby permitting relatively more efficient producers to thrive through export expansion. Efficiency of production would be increased through standardization as it reduces information asymmetries between

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4 A familiar alternative term is 'the quarantine measures' (Anderson, McRae and Wilson 2001, p. 1).

buyers and sellers, and promotes product commutability, thereby allowing for increased economies of scale and scope (Sykes 1995, Kindleberger 1985).

In practice, SPS standards can, however, become an impediment to trade for two reasons. First, importing countries may deliberately craft SPS measures that impose a cost or other disadvantage on foreign competitors to provide protection for domestic producers. Second even when comparable SPS measures are applied in developed countries to both domestic and imported products, they can act to impede imports from developing countries because of asymmetry in compliance cost.

As tariff barriers and other forms of border protection (e.g. quantitative import restrictions (QRs) and voluntary export restraints (VERs)) are progressively dismantled as part of the on-going multilateral and unilateral trade liberalisation initiatives, the temptation to use SPS standards (and other non-border measures) as protectionist barriers become greater. Given that SPS standards are less transparent than tariff or quotas, there is ample room for tweaking them to make them stronger than necessary for achieving optimal levels of social protection and to twist the related testing and certification (conformity assessment) procedures to make competing imports less competitive.

There is indeed evidence that for agricultural products, and processed food in particular, non-tariff impediments to international trade stem predominantly from SPS regulations and that their incidence on world trade has begun to increase in recent year. Most of these studies deal specifically with SPS issued faced by exporters from developed countries (e.g. Robers and DeRemer 1997, Weyerbrock and Xia 2000, Messerlin 2001). Among the few available studies of problems faced by developing countries, Otsuki, Sewadesh and Wilson (2000) provides a penetrating analysis of the trade impact of a 1998 EC regulation that raised the maximum permissible level of a certain type of aflatoxin (a toxic substance) in foodstuffs and animal feed to a higher level than international standards specified by the Codex Alimentarius. The results suggest that the EU standards, which would reduce health risk by approximately 1.4 death per billion a year would reduce exports by more that 60% or US670 billion from the 9 countries, as compared with regulation based on the international (Codex) standard.

There is evidence of some instances where standards prohibit trade altogether (Wilson 2002, p. 432). For example, a EU regulation requires that diary products be manufactured from milk produced by cows kept on farms and milked mechanically. This regulation virtually precludes imports from many DCs where milk production is by and large a smallholder activity. The EU recently invoked this regulation to ban import of camel cheese from Mauritania, bringing hardship to a small enterprise, which developed the product at a considerable cost. An Australian quarantine regulation requires that chicken meat imported from Thailand must be heated at 70 Celsius for 143 minutes to avoid the possibility of carrying a certain disease. This has effectively closed the Australian market for Thai chicken exporter (It is said that the required heat treatment transforms chicken into paper!) (Nidhiprabha 2003, 4). In June 2002, Thai authorities provided the Australian government with a risk assessment report showing that the risk of introducing IBDV to backyard flocks through cooked chicken meat was negligible. In November 2002,Thailand reported to the Committee on Sanitary and Phytosanitary Committee of the WTO that it was still waiting for a response from Australia (WTO 2003, 12-13).

SPS standards can impede trade even when they are imposed on genuine health and safety considerations because of additional compliance costs imposed on the foreign competitor. The existing food-safety standards have been designed by industrial countries to reflect their technology mix and consumer preferences, which may or may not be appropriate for developing countries. Upgrading existing standards or developing new ones and performing risk assessments is a costly and difficult procedure, and is neither technically feasible nor economically affordable for most developing countries (Michalopoulos 2001, Finger and Schuler 2001 and 2002). Resource, manpower and institutional constraints are naturally more binding for developing-country exporters compared to their developed-country counterparts. In addition, SPS standards sometimes diverge considerably across importing countries, making meeting standards costly and cumbersome for exporters. There are numerous costs associated with attempting to deal with the variability of standards across export markets and over time.

One useful source of information for gaining broader understanding of the relative performance of countries in meeting SPS standards is the record maintained (and publicly available) by US Food and Drug Administration (FDA) on import

shipments detained following its border inspection of shipments (in compliance with the Federal Food, Drug and Cosmetic Act). The information, for each shipment detained, includes the name/address of the exporter, the product and the reason for detention, and is available on a monthly basis (with a time lag of about two weeks) for the given month and the preceding eleven months.[5] This provides very useful information on current practices of exporters relating to meeting SPS standards. Preliminary results from an analysis of USFDA detention records for fish products, fruits and vegetable imports[6] over the twelve-month period from May 2001 to April 2002 are presented in Tables 4 and 5.[7]

Table 4 provides data by trading partner country (exporting country) on total detentions, total value of food exports (excluding meat and paltry products) and export value per detention. The number of rejections for a given country is obviously influenced by the overall volume of its exports, in addition to its ability to meet SPS standards. We therefore use 'export value per detention' (total dollar value of exports divided by the number of detained shipments, which adjusts to some extent for the volume effect) as a relative measure of inter-country differences in the ability to meet SPS standards. In a comparison among countries, a higher numerical value of the ratio would suggest a better performance in meeting SPS standards. The data clearly show the incidence of detention is greater on developing country imports relative to their trading significance compared to developed countries. On average, developing country firms experienced a detention for every $1530 thousand worth of imports to

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5 The data do not cover all food products imported to the US; meat and poultry products (which accounts for around a fifth of total annual food imports to the country) do not come under the preview of the USFDA compliance tests of the USFDA border inspection. It should be noted that detentions by the USFDA do not necessarily result in a complete loss of shipments. Most of the detained shipments eventually enter the US market after further testing and/or following treatment to bring them into compliance with US SPS requirements. But the cost of rejection at the border can be considerable, including loss of product value, transport and other costs, and costs of product re-export or destruction.

6 These three products are chosen for two reasons. First they accounts for over 80 per cent of total food imports to the U.S. from developing countries. Second, an analysis of total detentions is likely to provide a misleading comparison of developed and developing country performance because of significant compositional differences in imports coming from the two groups of countries.

7 Tabulations were made for two one-year periods - April 1999-May 2000 and April 2001-May 2002 – to find that the over served patters of the incidence of detention across countries and the underlying causes of detention are almost identical. The results are therefore reported only for the latter period

the US. This figure was much higher, over $ 2300 thousand, for developed country firms. When developing countries are grouped by income level, export value per detention is found to be much lower ($1152 thousand) for low-income countries compared to $1661 thousand for upper-middle-income developing countries.

According to Table 5, most detentions of imports from developing countries are for 'insanitariness' (contamination with insects and rodent filth), followed by microbiological contamination, acidification, and pesticide residue violations. In other words, developing countries seem to face considerable problems in meeting even basic food hygiene requirements, and not only standards that require more sophisticated monitoring and therefore more costly procedures (such as limits on pesticide residues and heavy metals). As is to be expected, exporters from developed countries do seem to pass the tests for basic hygiene requirements without any difficulty. Detention of imports from these countries seems largely to be for easily rectifiable reasons such as deficiency in labelling and provision of inadequate information.

The above inferences are generally consistent with those of some recent studies, which have looked at selected episodes of trade disruption cased by SPS concerns of importing countries. For instance, during the period from August to December in 1997, the European Union banned fishery product imports from Bangladesh because of concerns about hygienic standards in processing facilities (Cato and Don Santos (1998). The estimated cost of the loss of revenue to shrimp processors as a result of the ban was $14.6 million (35% of export earnings from that commodity in 1996). This episode highlights the importance of ensuring that standards are met and the need for setting up a suitable institutional framework for maintaining required quality standards in low-income countries like Bangladesh.

In January 1998, the EU imposed a similar ban on the importation of fresh fish and fish products from Kenya, Mozambique, Tanzania and Uganda to safeguard EU consumers from the risk of cholera. The EU justified the ban on grounds of lack of a credible system in Kenya to safeguard the product from possible contamination. This move by the EU resulted in considerable export losses as the ban was imposed without giving exporting countries the chance to put in place measures that eliminate

the health risk and a time frame for compliance (Henson, Brouder and Mitullah 2000, Wilson 2002).

In 2000 India was delisted by the EU from the list of approved countries for import of egg powder because of too high pesticide residues and failure to submit acceptable residue monitoring plans. It took more than three years for 3 of the six exporting plants to restart exporting to the EU after upgrading plants to reach HACCP compliance. The total cost amounted to 5% of the total investment of the three plants. The other three (smaller) plants lost the EU market forever because of their inability to raise the finances needed for upgrading the plants. In recent years the Indian sea-food and mango pulp industries have also faced similar SPS crises relating to their exports to the EU, which resulted in significant export and employment losses (Mehta and George 2003).

Muata and Nyamandi (1998) assess the impact of SPS requirements on agricultural and processed food exports from African countries through a survey of CODEX Alimentarius contact points in these countries. Of the countries that responded, 57% indicated that export products had been rejected within the previous two years because of the failure to comply with health standards in importing countries. Microbiological contamination, spoilage and other forms of contamination were identified as the major courses. A series of survey-based studies undertaken by the Centre for Food Economics Research at the University of Reading on the problems faced in the EU markets by developing country exporters have identified SPS measures as the major demand-side impediment influencing the ability of such exporters to exploit export opportunities in the EU (Henson and Loader, 1999, Hansen and Loader, 2001, Henson et al, 2000). These studies identify poor access to compliance resources, including scientific and technical expertise and finance, and a lack of awareness among officials about SPS requirements as major factors that impede exporting countries ability to meet SPS standards.

So far we have considered the *aggregate* trade effects of SPS standards. In addition to constraining the realisation of full export potential, SPS standards can impact on the ownership and size distribution of firms in a given export industry with redistribution and efficiency implications. Relatively large companies are naturally better placed to undertake additional investments needed to meet international SPS

standards. Moreover, firms with foreign capital participation are likely to be better placed, compared to purely locally owned firms, to meet SPS standards and/or to circumvent stringent standards (Silva 2001). There is evidence that industrial adjustment triggered by recent SPS crises in India, Bangladesh and Thailand pushed many small- and medium-scale firms into bankruptcy while strengthening the relative position of large scale firms in the affected industries (Cato and Don Santos 1998, Mehta and George 2003, Nidhiprabha 2003).

4. THE WTO MECHANISM FOR FOOD SAFETY REGULATION AND MONITORING

The Sanitary and Phytosanitary (SPS) Agreement, which forms a part of the WTO Agreement signed in 1994, aims to lay a firm foundation for strengthening multilateral discipline in the implementation of food-safety standards (SPS standards) in agricultural trade, with a view to achieving the objective of protecting consumers while regulating the use of these standards as a means of non-border trade protection. It superceded the original Article XX of the GATT, which remained virtually inactive in achieving this objective owing to unclear/restrictive provisions and the lack of an effective institutional framework for implementations. The text of the SPS Agreement (unlike the original GATT Article XX) is part of the mandatory portion of the WTO Agreement and therefore all WTO members are bound by it (Jackson 1997, 223-24).

Legal and Institutional Provisions

The promulgation of the Agreement was prompted by legitimate concerns that removing conventional trade restrictions on imports of agricultural products may tempt countries to use SPS standards as a new form of protection. The agreement aims to keep to a minimum the trade effects of government actions aimed at protecting human, animal and plant health by requiring importing countries to demonstrate that their SPS measures are based on scientific grounds and are applied equally to domestic and foreign producers.

In order to harmonize sanitary and phytosanitory measures on as wide a basis as possible, the Agreement encourages members to base their measures on

international standards, guidelines and recommendations where they exist, most notably the Codex Alimentarius, the International Office of Epizootics (OIE) and the International Plant Protection Convention (IPPC). The Agreement, however, affirms the rights of Members to adopt their own SPS measures (Article 2). But Members are responsible for ensuring that a measure is applied 'only to the extent necessary' to protect human, animal or plant life or health and is based on scientific principles and evidence. Members are however allowed to adopt SPS measures 'on the basis of available pertinent information' when 'relevant scientific evidence is insufficient', pending a more objective evaluation based on fuller evidence within a reasonable time (Article 5.7). Moreover, it is expected that Members would accept the sanitary and phytosanitory measures of others as equivalent if the exporting country demonstrates to the importing country that its measures achieve the importing country's desired level of health protection. The Agreement recognises that SPS risks do not correspond to national boundaries, and that there may be areas within a particular country that has lower risks than others, determined by factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of SPS controls, including pest- or disease-free areas and areas of low pest or disease prevalence.

In order to achieve transparency in SPS standards adopted by different countries, Members are required to publish and notify the SPS Secretariat of all proposed and implemented SPS measures. This information is relayed via the 'Notification Authority' within each Member government. Moreover, Members are required to establish an 'Enquiry Point', which is the direct point of contact for any other Member regarding any questions about SPS measures or relevant documents.

The Agreement provides for the settlement of disputes about the legitimacy of SPS measures that affect trade through the general Dispute Settlement Mechanism (DSM) of the WTO. (The dispute settlement system of the GATT was generally considered to be one of the cornerstones of the multilateral trade order. The Uruguay Round Understanding on Rules and Procedures Governing the Settlement of Disputes has further significantly strengthened the GATT system.) The Dispute Settlement Unit (DSU) at the WTO provides an integrated system for WTO Members to base their claims on any of the multilateral trade agreements included in the Annexes to the Agreement establishing the WTO. The DSU emphasizes the importance of

consultations in securing dispute resolution, requiring a Member to enter into consultations within 30 days of a request for a consultation from another Member. Where a dispute is not settled through consultation, the DSU requires establishment of a panel, at the latest, at the meeting of the DSB following that at which a request is made, unless the DSB decides by consensus against establishment. The DSU contains a number of provisions that take into account the specific interests of developing and least-developed countries.

In principle the SPS Agreement should help facilitate trade between developing to developed countries by improving transparency, promoting harmonization and preventing the imposition of arbitrary SPS standards. But this largely depends on the ability of developing countries to participate effectively in the implementation of the Agreement. For this reason, the Agreement itself tries to facilitate effective participation of developing countries by encouraging developed-country members to provide technical assistance to them (Article 9) and by according them special and differential treatment (Articles 10) (see Appendix):

In addition, the Dispute Settlement Understanding (DSU) of the WTO (which relates to dispute settlement under all WTO agreements) contains special clauses requiring special and differential treatments for developing countries. Article 4.10 of the DSU stipulates giving 'special attention' to the particular problems and interests of developing countries while Article 27.2 requires that they be provided with technical assistance to facilitate their effective participation in the dispute settlement mechanism.

Implementation

The experience of the past seven years shows that the achievements of the WTO SPS mechanism of in enforcing effective discipline over the use of SPS measures have certainly lagged behind original expectations (WTO 1999, 1998, Roberts 1998, Hoekman 2002). Several problems have emerged during the implementation of the Agreement. The Agreement allows too much latitude to importing countries in adopting SPS measures, allowing them to impose measures that impede imports, no matter how unlikely or how inconsequential the risk involved. Further, many of the provisions in the SPS Agreement pose problems in their interpretation and

application. For instance, the requirement that Members may adopt more stringent measures if they can base them on 'sound science' is a vague provision which assumes that there exist a *single objective* and *a correct view* of any scientific issue (Wirth, 1997, p. 827). These problems have raised serious doubts about the efficacy of the whole dispute settlement mechanism in solving SPS-related trade disputes (Hurst 1998). It is believed that this uncertainty have prevented many countries from further pursuing SPS issues beyond the point of discussion at the SPS committee stage.

The developing countries have so far failed to participate in the implementation of the Agreement as equal partners (OECD 2002, Finger and Schuler 2002, Michalopoulos 2001, Hoekman 2002). As of end December 2002, less than 60% of the total developing country membership (113 countries) of the WTO has formally complied with the SPS Agreement.[8] Altogether 154 specific trade concerns were raised during the eight years from 1995 to the end of 2002 at the meeting of the WTO Committee on SPS Measures. Compared to 110 concerns raised by OECD-country members, developing-country and least-developed-country members raised only 77 and 2 concerns respectively. The participation of the latter countries in the SPS dispute settlement process has been even poorer. Up to the end of 2002, there were nineteen disputes brought to the WTO Dispute Settlement Body (DSB) concerning alleged violation of the SPS Agreement. Developing country members invoked dispute settlement only in three of these cases (WTO 2003).

The poor participation of developing countries in the implementation of the SPS Agreement is due to several reasons. The poor participation of developing countries in the implementation of the SPS Agreement is due to several reasons.To benefit from the trade rules of the SPS Agreement, developing countries have to set up an appropriate set of institutions, including establishment of 'enquiry points' to gain enhanced access to developed country markets. This is excessively costly for many developing countries. World Bank project experience over the past five years in helping a number of developing countries to build their capabilities in this area suggests that the financial resources needed to implement the WTO rules would amount to 'an entire year's development budget' for most of the developing and transitory economies' (Finger

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8 29 of the 113 developing country members had not reported to the WTO the information on national notification authorities and 22 developing country members had not yet established SPS enquiry points (WTO 2003).

and Schuler, 2000, p. 511).[9] The Dispute Settlement Understanding of the WTO is widely regarded as one of the positive outcomes of the Uruguay Rounds, making a move towards a more 'automatic' and 'rule-oriented' system (Jackson 1997, 133-37). However, the experience with the dispute settlement process over the past five years makes clearly that developing countries do not enjoy a 'neutral' playing field, and that they are unable to participate effectively in the WTO dispute settlement process, Even if a developing country makes the large initial institutional investments needed to comply with the Agreement, it usually lacks the technical, scientific and legal resources needed to mount or defend a case in the dispute process. For example, most developing countries do not have the specialist knowledge in international law required to benefit from the DSM, and employing international lawyers is an extremely costly proposition. 'Much of the clauses in the DSU regarding developing countries have proved to be more declarative than operative and no initiatives have been taken to pay attention to the particular problems and interests of the developing countries (Delich 2002, 73).

Further, though the SPS Agreement itself tries to facilitate effective participation of the developing countries in the Agreement by encouraging developed-country members to provide technical assistance and accord special and differential treatment to developing countries, developed countries have failed so far to take any serious steps to assist developing countries in this way. This has prompted international organisations, such as the UNCTAD, the ITC and the World Bank, to begin to provide this kind of technical assistance to strengthen the institutional capacity of developing countries. But these initiatives are still in their early stages and the technical and financial support provided so far falls below what is required. In addition, a major problem is the paucity of much relevant information. There are also concerns about the length of time given between the notification of new SPS measures and their application, and about delays and perceived developed-country bias involved in the standards setting mechanism under the CODEX.

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9 The cost of achieving disease- and pest-free status required for Argentina to export meat, vegetables and fruit is estimated to have been $82.7million over the period 1991-96. The estimated cost of upgrading hygiene standards in slaughterhouses in Hungary over 1985-91 was $41.2 million.

5. CONCLUDING REMARKS

The SPS Agreement and the related dispute settlement mechanism of the WTO are an important first step in strengthening the global trade architecture, in bringing in greater transparency and orderly conditions to world food trade. However, the implementation of new trade rules has turned out to be a more complex task than the traditional market access tasks undertaken by the WTO. In particular, hampered by various resource constraints, and inadequate assistance from developed countries, developing countries have not become effective participants in the implementation process of the Agreement.

Unlike conventional trade policy reforms, SPS regulations cannot be implemented simply through legislative declaration. Their effective implementation in developing countries requires that binding commitments are made to provide adequate financial and technical assistance. In particular, there is a need for a global framework to support national capacity building and improve the design of international standards. By its very nature, the WTO is unable to play a major role in addressing the supply-side and institutional constraints confronting low-income countries. Concerted multilateral efforts outside the WTO are needed to mobilise additional financial and technical assistance. As Hoekman (2002) has argued powerfully in a recent article, this is an area where there is a clear need for providing 'aid for trade'.

However, the contribution that international initiatives can make in assisting developing countries to become effective participants of a rule-based world trading system should not be overstated. International initiatives are not a substitute for appropriate national action. Developing countries should see the implementation of SPS standards as an integral part of the process of establishing a dynamic business environment in the domestic economy. As we have already noted, it is not accidental that some developing countries have performed much better than others in penetrating developed country food markets, despite all the inadequacies of the world trading system. Developing countries that are seeking to succeed in these markets should not only make full use of available international assistance initiatives, but should also try to learn from the experiences of these relatively more successful developing countries.

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APPENDIX

Articles 9 and 10 of SPS Agreement

Article 9:
Technical Assistance

1. Members agree to facilitate the provision of technical assistance to other Members, especially developing country Members, either bilaterally or through the appropriate international organizations. Such assistance may be, *inter alia*, in the areas of processing technologies, research and infrastructure, including in the establishment of national regulatory bodies, and take the form of advice, credits, donations and grants, including for the purpose of seeking technical expertise, training and equipment to allow such countries to adjust to, and comply with, sanitary and phytosanitary measures necessary to achieve the appropriate level of sanitary or phytosanitary protection in their export markets.

2. Where substantial investments are required in order to for an exporting developing country Member to fulfil the sanitary or phytosanitary requirements of an importing Member, the later shall consider providing such technical assistance as will permit the developing country Member to maintain and expand its market access opportunities for the product involved.

Article 10
Special and Differential Treatment

1. In the preparation and application of sanitary or phytosanitary measures, Members shall take account of the special needs of developing country Members, and in particular of the least-developed country Members.

2. Where the appropriate level of sanitary and phytosanitary allows scope for the phased introduction of new sanitary or phytosanitary measures, longer time-frame for compliance should be accorded on products of interest to developing country Members so as to maintain opportunities for their exports.

3 With a view to ensuring that developing country Members are able to comply with the provisions of this Agreement, the Committee [that is, The Committee on Sanitary and Phytosanitary Measures at the WTO, established under Article 12 of the SPS Agreement] is enabled to grant to such countries, upon request, specified, time-limited exceptions in whole or in part from obligations under this Agreement, taking into account their financial, trade and development needs.

4. Members should encourage and facilitate the active participation of developing country Members in the relevant international organizations.

Table 1: World Merchandise Exports, 1970-1999 (selected years)

		Developed Countries	Developing Countries	Total
(1) Total exports	1970	218.9	38.6	257.5
	1980	1208.2	241.8	1450
	1990	2360.5	539.2	2899.7
	1995	3305.6	1054.3	4359.9
	1999	3564	1244.2	4808.2
(2) Manufacturing	1970	160.8	10.5	171.3
(SITC 5 through 8 less 68)	1980	896.6	111.1	1007.7
	1990	1903	380.6	2283.6
	1995	2649.3	819.1	3468.4
	1999	2964	1015.3	3979.3
(3) Agro-food products	1970	37.5	20.9	58.4
Including food processing	1980	187.4	87.2	274.6
(SITC 0+1+2+4-27-28)	1990	286.3	108	394.3
	1995	383.5	166.2	549.7
	1999	349.2	156.4	505.6
(4) Processed foods*	1970	16.9	6.7	23.6
	1980	88.2	34.3	122.5
	1990	155.5	51.1	206.6
	1995	220.4	85	305.4
	1999	212.6	81.8	294.4
(b) Selected Indicators of Export Composition (%)	1970	73.5	27.2	66.5
(6) Share of Manufacturing in	1980	74.2	45.9	69.5
total exports	1990	80.6	70.6	78.8
	1995	80.1	77.7	79.6
	1999	83.2	81.6	82.8

Table 1 Continued

(7) Share of Processed food in total exports	1970	7.6	11.9	8.5
	1980	7.1	5.9	6.6
	1990	6.4	7	6.5
	1995	6.5	6.9	6.6
	1999	5.8	5.6	5.8
(9) Share of processed food in agro-food products (including Processed food)	1970	29.1	23.8	27.4
	1980	47.1	39.4	44.6
	1990	54.3	47.3	52.4
	1995	57.5	51.2	55.6
	1999	60.9	52.3	58.2

Note:

* Processed food items were identified using a commodity concordance linking Standards International Trade Classification (SITC) and International Standards Industry Classification (ISIC). All 5-digit items in SITC divisions 0: food and beverages and 4: vegetable oils which are included in the ISIC classification system are treated as processed food. For details see Athukorala and Sen (1998).

Source:

Compiled from UN trade data (Series D) tapes held in the International Economic Data Base of the Australian National University.

Table 2: Composition of processed food exports from developing countries (percentage shares)

Categories of processed food	1970	1980	1990	1995	1999
Processed meat products	18.5	11.6	12.9	11.7	9.8
Diary products	0.4	0.6	1.0	1.1	1.6
Fish and fish products	8.9	16.4	29.4	30.0	30.1
Flour and cereals	1.2	1.6	2.3	3.4	3.9
Fresh and preserved fruits	4.5	4.7	8.2	5.7	6.8
Fresh and preserved vegetables	2.7	4.1	5.2	4.7	4.8
Fresh and sugar and molasses	31.5	34.2	11.4	10.2	9.1
Coffee extracts, cocoa, and chocolates	3.0	5.3	3.0	3.0	3.0
Preserved animal feeds	13.7	11.0	11.6	8.6	7.9
Margarine and food preparations	0.8	1.3	1.9	2.8	4.0
Beverages, alcoholic and non-alcoholic	4.0	1.9	3.0	3.9	5.3
Animal oils	1.1	0.3	0.1	0.2	0.1
Vegetable oils	9.8	7.0	10.0	14.5	13.6
Total export value of food processing (million USD)	61322	32205	46392	73567	71518

Source : Compiled from UN trade (Series D) data held in the International Economic Data Base of the Australian National University.

Table 3 : Processed food exports and growth rate of exports by category

	Processed food				Annual compound growth (1980-99)			
	1980 Mil $	%	1999 Mil $	%	Processed food	Primary products	Agricultural products	Manufactu-ring
Low-income countries								
Burundi	1	0.0	1	0.0	2.7	2.6	2.6	5.2
Bangladesh	46	0.2	350	0.6	15.1	0.3	6.7	11.7
Cameroon	104	0.5	184	0.3	7.0	7.0	5.1	5.8
Ghana	82	0.4	138	0.3	4.9	2.4	2.5	6.5
Honduras	91	0.5	125	0.2	8.8	3.4	4.4	9.4
India	768	3.9	2376	4.4	8.4	6.5	7.3	11.3
Ivory Coast	413	2.1	645	1.2	9.2	7.1	7.2	8.5
Kenya	86	0.4	215	0.4	8.8	6.5	6.8	9.2
Madagascar	41	0.2	27	0.1	0.7	-0.7	-0.7	5.0
Nicaragua	68	0.3	179	0.3	6.4	2.6	3.8	4.6
Nigeria	134	0.7	21	0.0	-4.3	10.4	-5.1	0.3
Pakistan	102	0.5	305	0.6	6.9	3.1	3.7	9.4
Sri Lanka	23	0.1	142	0.3	6.5	3.9	3.9	17.7
Sudan	99	0.5	117	0.2	5.6	1.9	0.7	6.4
Senegal	192	1.0	44	0.1	-2.4	4.7	-1.2	3.2
Tanzania	34	0.2	164	0.3	7.3	2.4	3.5	5.7
Zambia	23	0.1	17	0.0	4.6	10.8	8.6	-2.4
Middle-income countries								
Bolivia	59	0.3	220	0.4	19.5	4.5	13.1	7.4
Colombia	310	1.6	805	1.5	9.6	8.5	5.9	12.9
Costa Rica	96	0.5	516	1.0	11.2	7.5	8.2	15.5
Dominican Republic	365	1.8	435	0.8	4.1	4.6	4.0	12.3
El Salvador	55	0.3	217	0.4	8.3	2.9	3.9	7.8
Guatemala	168	0.8	480	0.9	9.2	6.5	6.9	8.5
Indonesia	723	3.6	3947	7.3	14.6	10.1	9.0	21.6
Peru	357	1.8	1017	1.9	3.1	5.4	3.8	5.1
Philippines	1631	8.2	1650	3.1	5.2	4.3	4.4	15.7
Thailand	826	4.2	6611	12.3	17.0	9.6	10.9	20.9
Tunisia	51	0.3	239	0.4	8.7	7.0	8.3	15.7
Turkey	418	2.1	2072	3.8	10.0	7.1	7.6	17.6
Upper-middle-income countries								
Argentina	1345	6.8	5890	10.9	11.3	7.0	7.1	11.8
Brazil	5450	27.5	7873	14.6	10.0	6.4	7.1	13.4
Chile	459	2.3	2973	5.5	16.2	11.8	14.8	7.8
Korea	1133	5.7	2245	4.2	12.6	14.8	12.1	19.1
Mexico	955	4.8	3751	7.0	9.3	12.4	9.2	18.5
Malaysia	1564	7.9	6036	11.2	12.7	7.6	7.5	17.4
Taiwan	1425	7.2	1475	2.7	7.8	9.9	7.8	16.5
Uruguay	135	0.7	434	0.8	12.1	5.8	6.9	10.7
Total Sample Countries	19834	100.0	53940	100.0	9.7	7.9	7.2	15.1
All developing countries	34347		81828		8.7			

Source : Compiled from UN trade (Series D) data held in the International Economic Data Base of the Australian National University

Table 4 : Import Detentions by the US Food and Drugs Administration: Number of Detentions, Total Value of Imports* and Import Value per Detention of Fish Products, Fruits and Vegetable Imports, May 2001-April 2002*

		Detentions		Realized imports		Import value per detention ($ '000)
		Number	%	Value, ($ Million)	%	
1	Developing countries	6660	78.4	10222	70.5	1535
1.1	Low income countries	763	9.0	1173	8.1	1537
	(Excluding Honduras)	(722)	(8.5)	(832)	(5.7)	(1152)
1.2	Middle income countries	3232	38.0	4623	31.9	1430
1.3	Upper-middle income countries	2665	31.4	4427	30.5	1661
2	High Income countries	1835	21.6	4281	29.5	2333
3	All countries	8495	100	14503	100.0	1707

Notes

* Countries are classified using the World Bank's income-based classification system.

** Honduras seems to experience a relatively law detention rate because its major export product, banana, is less susceptible to SPS violations compared to other food items covered in this tabulation.

Source : Complied using data for import detention from US Food and Drugs Administration, OASIS Website (http://www.fda.gov/oasis) and data for Export to US from US International trade commissions, USITC Website (dataweb.usitc.gov)

Table 5: Detention of Imports of by the USFDA: Percentage Distribution of Shipments of Fish Products, Fruit and Vegetable Detained During May 2001 – April 2002 (%)

Product/cause of detention	All countries	Developed countries	Developing countries
Unsafe additive	1.8	0.6	2.0
Poisonous & deleterious matter	12.2	8.5	12.8
Contamination	17.3	1.4	20.1
Insanitariness	25.0	13.6	27.0
Acidification	11.2	22.2	9.3
Under-processed	1.8	0.5	2.0
Inadequate information	12.2	35.5	8.1
Deficiency labeling	11.7	13.3	11.4
Others	6.9	4.4	7.3
Total	100	100	100

Source : Complied using data from US Food and Drugs Administration, OASIS Website (http://www.fda.gov/oasis)