

# Asia-Pacific Research and Training Network on Trade

# SPS measures and possible market access implications for agricultural trade in the Doha Round: An analysis of systemic issues

By Murali Kullummal

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# SPS measures and possible market access implications for agricultural trade in the Doha Round: An analysis of systemic issues

Murali Kallummal

#### **Abstract**

Even as the Doha Round seeks to address tariff liberalization issues in a comprehensive manner, the imbalance in the outcome of market access for developing country exporters will be particularly glaring in the case of fresh agricultural and processed food products. There is growing evidence that protectionism from the usage of non-tariff barriers such as SPS measures has increased tremendously in the recent past. This paper discusses an analysis of the SPS notifications made by WTO Member countries from 1995 to July 2010, which found that 53 per cent of total SPS notifications during that period were made by developing countries. However, developed countries are using their national standards to a more significant extent than Doha developing countries. The adoption of differing national standards creates significant barriers to trade, with developed country standards being higher in many cases. Frequently, these standards are not matched by the developing countries' technological capabilities. Furthermore, there are some systemic issues in the SPS Agreement and its implementation that bias its outcome against developing and least developed countries. Thus, there is an urgent need for discipline in the usage of SPS measures as a tool for "disguised" protectionism. This can be best achieved by harmonizing the standards across WTO Members under the three intra-governmental bodies already identified by the SPS Agreement. Given the principle of national treatment, this means that the imperative for developing country governments to support the technological upgrading of their domestic agricultural sectors has become extremely urgent.

**Key words:** Agreement on Sanitary and Phytosanitary Measures, transparency, non-tariff

measures, ad-valorem equivalents, technological gap, harmonization, WTO

**JEL codes:** F13, F14, O19

#### Introduction

One of the less analysed issues of the World Trade Organization (WTO) negotiations is the imbalance in market access that still prevails in the global arena between developed and developing countries; this is the result of the increased use of non-tariff measures, such as standards/regulations as trade policy instruments, while simple average most-favoured nation (MFN) tariffs continue to decline. This issue is really alarming in the case of the agricultural trade, wherein the WTO negotiations have led to substantial disciplining of the tariff structure and are expected to further it at the culmination of the Doha Round, while non-tariff measures (NTMs) such as Sanitary and Phytosanitary (SPS) standards are on the rise.

While engaging in international trade, one fundamental requirement has been that imported agricultural products must be safe for human consumption and not pose risks to human, animal or plant health. Thus, countries have always imposed regulations or standards in order to ensure food safety as well as to avoid the introduction of diseases and pests through trade. Trade in agricultural commodities and related standards or regulations have co-existed since the beginning of international trade. <sup>1</sup>

The General Agreement of Tariffs and Trade (GATT), the first multilateral agreement regulating international trade (also referred to as "Standards Code"), was not intended to address issues related to agricultural trade. The first recorded comprehensive effort to address the issue of NTMs together with tariffs was in the "Meeting notes by the secretariat" (May 1973)<sup>2</sup> with specific emphasis on non-agricultural products.<sup>3</sup> However, under Article XX(b), some exceptions were provided to enable members to implement domestic measures necessary for protecting human, animal or plant life or health. Members had the right to take such measures as long as they were not applied in a manner that would be arbitrary or unjustifiably discriminate among countries, or serve as a disguised restriction on international trade.<sup>4</sup>

Nearly 15 years later, when the Agreement on Agriculture (AoA) was formalized by the signing of the WTO Agreement in 1995, it was considered important to govern agriculture-specific standards and regulations. The Agreement on Sanitary and Phytosanitary measures thus came into existence, setting out the basic rules for food safety, and animal and plant health standards. The need for these standard/regulations arose primarily from the tariff reduction commitments under the WTO Agreement. Therefore, these regulations ensured food safety and other objectives that largely originated from domestic production processes and technological capabilities related to agricultural products in different countries as well as their local health requirements. Hence, they were fundamentally discriminatory and led to disguised protection of the domestic agricultural sector in particular countries.

The SPS Agreement allows countries to set their own standards. It also mandates that these regulations must be based on science and should be applied only to the extent necessary to protect human, animal or plant life or health. Further, these standards or

<sup>&</sup>lt;sup>1</sup> Previously, this excluded the exchange of food and other agricultural products as part of any aid programmes.

<sup>&</sup>lt;sup>2</sup> Available at the Stanford University library.

<sup>&</sup>lt;sup>3</sup> Basically, this meeting addressed all issues related to standards that were first introduced in the Tokyo Round of GATT, when it was known as the "Standard Codes".

<sup>&</sup>lt;sup>4</sup> See Jaiswal, 2003, and Das, 2008.

<sup>&</sup>lt;sup>5</sup> The Agreement bound countries developed and developing equally into many disciplines on tariff and quotas.

regulations should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail, thus stressing the need for the application of the MFN principle. In order to achieve this objective, the SPS Agreement encourages Members to use international standards, guidelines and recommendations where they exist. Members may adopt SPS measures that result in higher levels of health protection, or introduce measures related to health concerns for which international standards do not exist, provided that a thorough and scientific risk assessment validates the claim for a regulation. Since the use of these measures may have a negative impact on market access, WTO makes it mandatory for all Members to notify such SPS regulations/standards to the WTO Secretariat, which are passed onto WTO Members for transparency purposes.<sup>6</sup>

The SPS Agreement also established a Committee on Sanitary and Phytosanitary Measures to provide a forum for consultations about food safety or animal and plant health measures that affect trade, and to ensure the implementation of the SPS Agreement. The committee normally meets three times per year and issues regular guidelines that address consistency in the decisions dealing with safety and health risks, and which are designed to aid governments in avoiding arbitrary or unjustifiable decisions.

While the agreement was meant to harmonize Member countries' NTMs related to agricultural products, the use of international standards, guidelines and recommendations is not legally binding. Hence, any WTO Member can maintain higher standards based on appropriate assessment of risks as long as the approach is consistent and there is scientific justification. That is, the agreement still allows Member countries to use different standards and different methods of inspecting products. However, these exceptions in the application of SPS and Technical Barriers to Trade (TBT) measures have led to some imbalance in the process of WTO negotiations as a whole.

On the one hand, Members have been doing away with the use of tariffs as a trade policy tool. Although in GATT<sup>7</sup> and the Uruguay Round the emphasis was primarily on ad-valorem tariffs, with the Doha Round completion certain unattended aspects of tariffs such as non-ad-valorem tariffs will also be addressed under the Ad-Valorem Equivalents (AVEs).<sup>8</sup> The Doha Round will thus address tariff liberalization more comprehensively, even if the most "balanced" outcome under the tiered-tariff approach (currently under consideration) may still be biased towards the developed countries and against the developing countries. However, the imbalance for developing country exporters will be

<sup>6</sup> This is in accordance with the transparency clause of Annex B of the SPS Agreement and Article 21 of the TBT Agreement of WTO.

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The Tokyo Round (1973-1979) of GATT initiated the negotiations under "Tariffs, non-tariff measures, framework Agreements" within the membership of 102 countries. It continued GATT's efforts to progressively reduce tariffs. The results included an average one-third cut in customs duties in the world's nine major industrial markets, bringing the average tariff on industrial products down to 4.7%. The tariff reductions phased in over a period of eight years, involved an element of "harmonization"; the higher the tariff, the larger the cut, proportionally. However, it failed to come to grips with the fundamental problems affecting farm trade and also stopped short of providing a modified agreement on "safeguards" (emergency import measures). Nevertheless, a series of agreements on non-tariff barriers did emerge from the negotiations, in some cases interpreting existing GATT rules, in others breaking entirely new ground. In most cases, only a relatively small number of (mainly industrialized) GATT members subscribed to these agreements and arrangements. Because they were not accepted by the full GATT membership, they were often informally called "codes".

<sup>&</sup>lt;sup>8</sup> The first formal WTO Secretariat note on the issue of Ad Valorem Equivalents was titled "Calculation of Ad Valorem Equivalents (AVEs): Data requirements and availability", TN/AG/S/11, 15 November 2004. This was as part of the Doha Round Ministerial Mandate. See also Babili, 2009.

particularly noticeable in the case of agricultural products, given the growing evidence that the use of non-tariff measures (SPS and TBT standards) has increased tremendously. Despite this concern of a growing protectionist use of NTMs in the wake of trade liberalization, there have been limited attempts to rigorously study the wholesome effects of trade liberalization that go beyond the impact of tariff liberalization.

In this context, the Centre for WTO Studies (CWS) has collated and created databases on WTO-compatible, non-tariff measures such as SPS and TBT that are being implemented by countries, based on Members' submissions to the WTO Secretariat as mandated under the SPS and TBT Agreements. Approximately 14,786 (under TBT) and 11,434 (under SPS) measures were notified to WTO from January 1995 to December 2010. In terms of product coverage, while the TBT notifications relate to approximately 75,995 products at the HS four-digit level, the SPS notifications are applicable to more than 90,665 products. The average product coverage of a single SPS notification is approximately eight products.

This paper presents the findings of an analysis based on the CWS database<sup>10</sup> of SPS measures notified by WTO Members from January 1995 to July 2010. Section 1 presents the global scenario as well as the Indian scenario regarding the use of SPS measures. It also briefly discusses the use of SPS measures in the context of the proliferation of FTAs and related problems. Section 2 discusses some systemic issues that are observed in the SPS agreement and its implementation, and which bias its outcome against developing country and least-developed country (LDC) Members. Section 3 provides the conclusion and offers some policy suggestions for rectifying the systemic issues in the Agreement with the aim of helping to achieve a more balanced outcome for developing countries.

### 1. An analysis of NTM standards (SPS and TBT) since 1995

The non-tariff measures (SPS and TBT Standards) increased from just 576 notifications in 1995 to 1,305 notifications in 2004, and subsequently doubled to 3,257 notifications by 2010 (figure 1).

<sup>&</sup>lt;sup>9</sup> The SPS agreement was an offshoot of the WTO's formation, with agricultural products being covered. Also see Centre for Economic Policy Research, "Non-tariff Barrier Mercantilism's last refuge?" Available at www.cepr.org/pubs/bulletin/meets/winters.htm.

Visit the CWS web link at <a href="http://wtocentre.iift.ac.in/">http://wtocentre.iift.ac.in/</a>. Individual links for the database on SPS are available at <a href="http://cc.iift.ac.in/sps/index.asp">http://cc.iift.ac.in/sps/index.asp</a> and for TBTs at <a href="http://cc.iift.ac.in/tbt/index.asp">http://cc.iift.ac.in/sps/index.asp</a>.

2,500 3,500 3,257 2,935 3.000 2,000 2,500 No. of Notifications 2,202 1,500 1,045 1.525 1.500 1,000 1.161 1.000 500 500 Total WTO-compatible NTMs TBT notifications SPS notifications

Figure 1. Non-tariff measures: Notifications to WTO

Source: Centre for WTO Studies online database.

Therefore, NTM standard notifications have seen an upward trend since 1995, contrary to the trend of falling average tariffs of WTO Members (see table: Exponential growth rates in NTMs). Total WTO-compatible NTMs have increased at a rate of nearly 11 per cent per year – up from 576 such standards notified in 1995 to 3,257 measures in 2010.

**Exponential growth rates in NTMs** 

NTMs	Pre-Doha deadline	Post-Doha deadline	Exp. growth, 1995-2010
TBT notifications	4.6	21.6	9.2
SPS notifications	16.7	12.5	13.2
Yearly NTMs	9.4	17.4	10.7
<b>Cumulative NTMs</b>	<b>37.8</b>	16.1	23.8

Source: Based on the CWS online database.

The developed Members notified the SPS standards during the pre-Doha phase while the developing countries sparingly participated in the notification process. The lack of participation could be attributed to two factors – the level of domestic technical knowhow and the fact that these countries were not ready to notify their national standards.

This study primarily focuses on the SPS standards and their impact on agricultural trade. The role of SPS standards are emphasized since they recorded a higher growth rate of 13 per cent per year compared with 9 per cent per year in case of TBT standards (table 2). The increasing trend of the use of SPS-related standards can be divided into two phases: (a) the pre-Doha Round deadline (1995-2004); and (b) the post-Doha Round deadline (2005-2010). While the total notifications of developed and developing countries showed an increase of 3.5 times (over and above 1995 notification) in the first phase while it increased by 5.9 times (over and above 2004 notification) during the second phase. Suggesting a clear rising trend in the SPS notification in the second phase – post Doha phase.

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Figure 2. Increase in SPS notifications in 2010 compared with 1995 notifications

Source: Centre for WTO Studies online database on SPS notifications.

This clearly suggests a surge in notifications in the second phase after the deadline for the Doha Round was not met in December 2004. There are probable two reasons behind this occurrence, but which are difficult to prove scientifically. First, more and more countries have resorted to protectionism, using the SPS measures, as the Doha Round mandated goals of "market access" (tariff and non tariff measures) have been turning into an unattainable task. Second, growing regionalism with the surge in preferential trade agreements (PTAs)<sup>11</sup> around the world during this period was another reason for the increase in protectionism expressed in the form of rising SPS standards. Thus, both reasons reflect the weakness of the multilateral system in one way or other.

By tracing the SPS measures from January 1995 to December 2010, the present paper presents the empirical evidence on the use of non-tariff measures. This analysis also provides interesting feedback on the changing global dynamics as a result of the WTO tariff reduction negotiations, since there are only a few trade policy instruments available for use with the tariff defence being lowered.

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<sup>&</sup>lt;sup>11</sup> From 1995 to 2011 the number of new free trade agreements (FTAs), economic integration agreements (EIAs) and Custom Unions (CU), most of which were signed with the primary goal of further reduction of tariffs with only a few having the provisions of mutual recognition agreements (MRAs). Of these 179 agreements, only 11 addressed issues related to services, investment and TRIPS etc., thus allowing limited scope for MRAs. The author's calculation is based on the WTO database of RTAs.

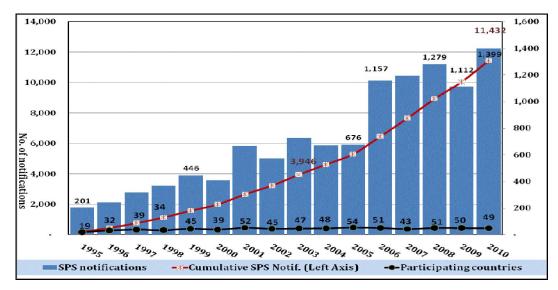


Figure 3. SPS measures, 1995 to 2010

Source: Centre for WTO Studies online database on SPS notifications.

A total of 102 WTO Members used the process of SPS notifications from 1995 to 2010. By 2009, the number of notifications had increased by seven times compared with the 1995 level. However, not all countries actively participated in making submissions in each year. When compared with WTO's total membership in 1995 (123), only 15.4 per cent participated in the notifications of SPS measures. However, there has been a clear rise in the participation rate in recent years. The second highest participation rate was observed in 2010 (32 per cent,) during the post-global recession period, once again suggesting increased usage of such measures as strategic trade policy tools in order to protect the domestic market. This clearly points towards the increasing imposition of WTO-compatible standards or NTBs such as SPS and TBT measures.

Although there were only 201 notifications by 19 Members in 1995, this figure increased significantly to 1,279 notifications by 51 Members in 2008. Although the highest participation rate was recorded in 2005 when 54 countries took part in notifications, the single-year number of notifications was the highest in 2008. In 2009, the cumulative total of SPS notifications crossed the benchmark of 10,000. Up until July 2010, participating countries had lodged 10,897 notifications. <sup>14</sup>

#### (a) SPS measures: Trends in developed and developing countries

In terms of country status, in 1995 developed WTO Members made 79 of the SPS notifications, while developing WTO Members made 122 notifications. By 2000, this trend had reversed, with developing WTO Member countries showing a decrease in notifications. In 2001, notifications by developing Member countries started to increase

<sup>&</sup>lt;sup>12</sup> Total membership of WTO is currently 153 countries.

The NTM notifications are added up on a yearly basis until they are cancelled or withdrawn. In the case of a drop in tariffs, the impact is immediate and is reflected by lower national average tariffs.

Observer countries were also part of this notification exercise for SPS measures, including countries such as Azerbaijan (two notifications in 2009) and Belarus (three notifications in 2002).

again, and continued to rise until 2005, together with those by developed Member countries. One significant reason for this increase in developing country participation in this phase was notifications by China following its accession to WTO.

In 2006, there was a sudden increase in the notifications by both developed and developing WTO Members, which led to near-doubling of the annual notifications. This again was a clear reflection of the increased tendency to use SPS measures as a strategic trade policy tool with the collapse of the Doha Round. In 2008, the notifications by developed Member countries started decreasing, while those made by developing Members increased. In later years, both developed and developing Member country notifications started decreasing, but there was a bigger drop in developed Member country notifications. Thus, the rising trend during 2006-2009 was dominated by developing countries.

It became clear that with the lack of progress in Doha Round negotiations, developing countries had lost faith in developed countries' ability to keep their promise to lower agricultural tariffs/subsidies that would have given them any meaningful access in those markets. Thus, developing countries began resorting to the increased use of SPS measures, as they wanted to defend their domestic markets against further import penetration.



Figure 4. SPS notifications: Developed vs. developing countries

Source: Centre for WTO Studies online database on SPS notifications.

Of a cumulative total of 11,434 notifications up until December 2010, the developed Member countries had made 5,308 notifications, constituting 47 per cent of the total SPS notifications, while developing Member countries had made 6,096 notifications, constituting 53 per cent of the total SPS notifications.<sup>15</sup>

Nearly 16 per cent of the total notifications comprised additions, revisions and corrigenda. In fact, the rise in total notifications observed in 2006 was also partly related to the sudden rise in the notifications pertaining to additions and revisions, both by developed and by developing Member countries. Developed Member countries made 141

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<sup>&</sup>lt;sup>15</sup> Of the total SPS notifications, 30 notifications (0.28 per cent) were by the WTO Secretariat, which contained details about the nodal agencies and addresses in the Member countries.

add./rev./corr. notifications while developing Member countries made 99 similar notifications in that year. Overall, developed Member countries (1,074) carried out more of these notifications than did developing Member countries (869). An analysis of these sets of notifications clearly showed that developed countries had begun putting more stringent measures in place through the corrections and revisions to the original notifications.

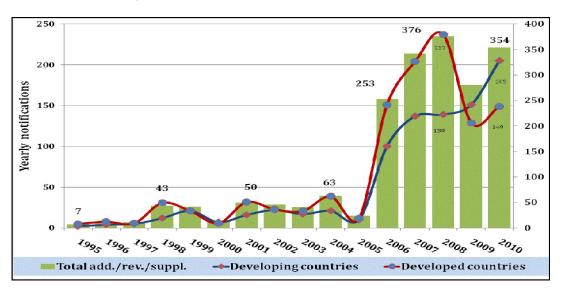


Figure 5. Additions and revisions of SPS measures

Source: Centre for WTO Studies online database on SPS notifications.

Of the total SPS notifications, about 12 per cent (1,298) were emergency measure notifications. 16 Developing Member countries made more notifications (943) on emergency measures than developed Member countries (355). It was found that while the majority of emergency measures (close to 73 per cent) imposed by developing Member countries was in the category of international standards, the developed Member countries made relatively higher use of national and regional standards (60 per cent).

In terms of usage, the developing Member countries' 16 per cent share of the total notifications 10 percentage points higher than what was recorded in the case of developed Member countries (6 per cent). The reasons for this are obvious – first, these are temporary in nature and can be immediately put in place from the date of notification or even before; second, these notifications do not require any scientific justification or criterion in the strictest terms and, above all, the developing Member countries are desperate to protect their domestic markets.

Of the 20 Members among the developed category, the largest notifiers of SPS measures were: United States (2,560); Canada (629); the European Union (536); New Zealand (523); Australia (285); and Japan<sup>17</sup> (262). Notifications by developed countries were in the 50 to 100 range. With regard to SPS measures, some of the developing Members with significantly high notifications were: Brazil (851); Republic of Korea

<sup>&</sup>lt;sup>16</sup> Both developed and developing Member countries have withdrawn only 0.1 per cent of their notifications from WTO.

A study of the cut flower market in Japan suggested a significant impact on Japanese imports of cut flowers if the SPS measures did not exist at the border. See Liu Lan and Yue Chengyan, 2009.

(412); China (364); Peru (358); Chile (351); Colombia (289); the Philippines (286); Taiwan Province of China (271); Mexico (245); and Thailand (225). That is, the highest presence of standards was among the Asian and Latin American continents.

It is significant that China, which had acceded to WTO only in December 2001, is ranked third among developing Member countries in terms of the number of notifications. This clearly highlights the strategic use of standards by China as an instrument of trade policy as it has opened up rapidly to global trade.

Only two studies have directly addressed the impact on trade and related issues in the context of WTO-notified SPS and TBT Agreements. These studies concluded that these SPS and TBT standards have, on the whole, had a negative impact on trade. What is interesting is the fact that the measures do not deter exports/imports between Organisation for Economic Co-operation and Development (OECD) members. However, they do constrain exports from developing and least-developed countries. Therefore, it is evident that these standards do have an impact on the overall market access scenario in the developed countries.

The increasing use of SPS measures around the world is making market access even more challenging, as these measures are opaque and mostly applied without any guidelines with regard to HS nomenclature. While tariff reduction can be traced in terms of HS nomenclature, the main lacuna in "standard" is that no association exists with the HS nomenclature; approximately 90 per cent of the SPS notifications submitted to the WTO Secretariat (1995 onwards) does not contain HS code details. Therefore, it is left to the discretionary powers vested in customs authority at the border of the importing country.

#### (b) Trends in the use of SPS objectives

In terms of objective, the largest number of notifications by developed Members have been on food safety and human health<sup>20</sup> (66 per cent), followed by animal health (15 per cent), plant protection (12 per cent), human health (5 per cent), and consumer protection and animal and human health (1 per cent each). Very few notifications have been made in the categories of harmonization and trade facilitation (0.18 per cent), protect territory from pests (0.16 per cent), and human and plant health (0.10 per cent). The lowest notification has been human, plant and animal health (0.02 per cent).

<sup>19</sup> For a detailed analysis of the standards impacts on trade see: Disdier, Fontagne and Mimouni, 2007; and Fontagne, Mimouni and Pasteels, 2005.

<sup>&</sup>lt;sup>18</sup> One fundamental reason for this is that the OECD countries are operating on similar technological production structures or bases in terms of production processes.

<sup>&</sup>lt;sup>20</sup> Changing socio-economic situations such as single households, single parents, working women and the availability of multi-optional consumers have often been used as justification for the use of these measures in developed countries (Lehmann and Karrer, 2004)..

<sup>&</sup>lt;sup>21</sup> Trade facilitation and infrastructure are often taken up in the general sense at the policy level, and only partly address the specific issues related to the reduction of risks and transaction costs in the context of agricultural trade – i.e., the invisible infrastructure such as easy documentation, customs procedures, regulatory regimes and mutual recognition).

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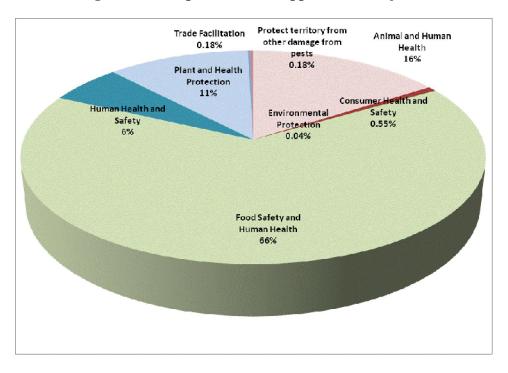


Figure 6. Developed Members' application of objectives

Source: Centre for WTO Studies online database on SPS notifications.

Thus, the developed countries did give paramount importance to food safety and human health issues. Such notifications were largely related to maximum residue limits (MRLs) and particles per million (PPM) with regard to residuals of chemicals and pesticides. They also regulated the use of food additives. MRLs are often set at higher than the internationally accepted standards. On the other hand, developed countries addressed concerns on animal health, often with reference to "good agricultural practices".<sup>22</sup> Being "consumer centric" these practices are often biased in favour of the "big" (organized sector) animal farms. However, animal husbandry activities are often subsidiary activities in developing countries, supporting the primary income source, so adhering to "good agricultural practices" would mean higher expenditures.

<sup>22</sup> "Good agricultural practice" is a concept evolved by the United Nations Food and Agriculture Organization (FAO). It involves the production of animal and animal products with the following goals: (a) the production of safe, healthy, high-quality food for consumers; (b) the provision of jobs with fair incomes for rural communities; (c) socially and environmentally sustainable production; and (d) the implementation

of high standards of animal welfare.

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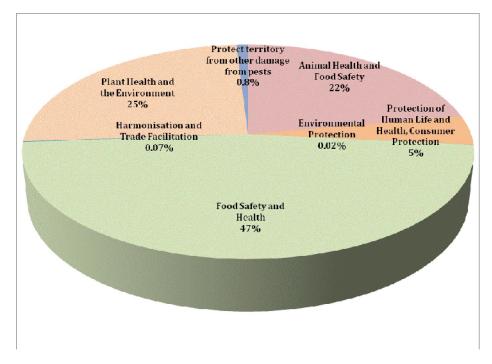


Figure 7. Developing Members' application of objectives

Source: Centre for WTO Studies online database on SPS notifications.

Close to 47 per cent of the notifications made by developing countries also fell under the categories of "food safety and human health". Measures with regard to "plant protection" were given second preference with a 25 per cent share of the total notifications by developing countries, followed by "animal health" with a 21 per cent share. These three measures together accounted for 93 per cent of the total SPS notifications by developing countries.

This concentration was followed by smaller proportions of notifications in other categories: (a) "human health", 4 per cent; "animal and human health", 2 per cent; and "protect territory from pests", 1 per cent. Further highly insignificant percentages of SPS notifications were notified by these countries under: "human and plant health" (0.35 per cent); "consumer protection" (0.28 per cent); "harmonization and trade facilitation" (0.12 per cent); and "plant and animal health" (0.02 per cent).

Clearly, SPS notifications by developing countries have been relatively less skewed to "food safety and human health" when compared to developed countries.

#### (c) Trends in the use of international standards

Some studies did find that the effect of national standards on trade exceeded the effects of international standards. Some specific studies on agricultural products, and textiles and clothing standards in a country can constrain imports into that country, thereby denying market access for third countries (Swann, 2010). Among the various SPS measures prevalent among developed and developing countries, there are also differences

in terms of the usage of national, international and regional standards.<sup>23</sup> This suggests that the use of these measures is not actually as visualized under the SPS Agreement.

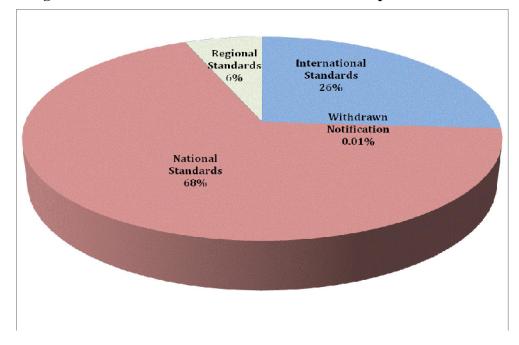


Figure 8. National vs. international standards – developed Members

Source: Centre for WTO Studies online database on SPS notifications.

For the developed countries, the SPS Agreement provided leeway in the application of national standards even if they were not found to be scientifically consistent. In terms of scale on rigidity, the risk assessment is considered to be on a lower level and therefore less stringent than the scientific justification. There are also provisions in the SPS Agreement for the application of a "risk-based approach" in the use of new measures, which is ranked lower in scale than having scientific justifications.<sup>24</sup>

The developed countries have greater technological capabilities in terms of production processes; in addition, a gradual shifting of the production activities of the so-called "dirty industries" to developing countries has been seen since the 1980s (Grossman and Krueger, 1995). Even the international standards by FAO, an international standard-setting body, appear to be biased towards favouring the developed

<sup>24</sup> As clearly stated under Article II as part of the "Basic Rights and Obligations", and "Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection Criterion" is mentioned as an additional effort only for emergency situations under the SPS Agreement (Article 5.7). The risk-based approach can only be used provisionally to address the SPS concern of a Member.

<sup>&</sup>lt;sup>23</sup> The three international standard setting organizations are OIE, IPPC, and CODEX alimentarius (FAO/WHO joint committee). For details see Annex A(2) of the Agreement on Sanitary and Phytosanitary Measures, "The legal text: The results of Uruguay Round of multilateral trade negotiations", p.67.

<sup>&</sup>lt;sup>25</sup> The conventional approach in the literature has been to identify "dirty industries" as those that incur high levels of abatement expenditure per unit of output (Robinson, 1988; Tobey, 1990; and Mani, 1996). Accordingly, five sectors are classified as "dirty industries" – iron and steel, non-ferrous metals, industrial chemical and chemical products, pulp and paper, and non-metallic minerals.

countries.<sup>26</sup> As a result, the implementation of the SPS Agreement has been weakened, thus favouring the developed countries and having a negative impact on the exporting interests of the developing countries.

Developed Members have applied their own national standards (3,452 notifications) in 68 per cent of their total notifications. International standards (1,323 notifications; 26 per cent) have only been given second preference. Regional standards have been applied in 6 per cent of the notifications by these Members. Thus, a prevalence of "national standards" was found to be correct in the case of developed countries. This could be detrimental to developing countries' market access prospects in the case of raw agricultural and processed food products. For example, a study by CWS in 2010 suggested the prevalence of national standards across the QUAD countries.

In Canada, for example, the cyromazine MRL permissible in potato and potato products, and trimethylsulfonium salt MRL in lentil were both found to be more stringent. In European Union members, it was glyphosate MRLs in eggs and egg products, and milk and milk products. Another case was MRLs for pesticides in cereals, fruit and vegetables, and products of animal origin. The United States' case was similar with phorate MRLs in beets, garden, tops; beets, garden, roots; and in spinach, corn, beans, sugar cane, soybeans, sorghum, potatoes, hops, wheat and coffee.

In the case of Japan, it was the cadmium presence in brown rice and polished rice as well as the cyazofamid MRL for various agricultural products that were found to be more stringent than international standards. These are just some of the more conspicuous examples of the violation of the "spirit" of the SPS Agreement, i.e., not to cause unfair obstacles to trade. Overall, the study (CWS, 2010) reached the following conclusions:

- (a) There was a movement towards higher thresholds that were more stringent than internationally accepted norms;
- (b) An increase in the product coverage was observed;
- (c) There was a change in objectives, with movement from general to specific objectives.<sup>27</sup>
- (d) The language of national notifications was a barrier (only in the case of Japan).

It should also be noted that the prevalence of national standards based on risk assessments point to the increased use of provisional maximum residue limits (P-MRLs). Higher P-MRLs are proposed when residue trials and toxicological data show an unacceptable risk to consumers. However, any additional residue and toxicology data from WTO Members concerning MRLs to be changed will be judged by local experts of the importing country. This is a lengthy and time-consuming process and can possibly destroy the production capacities in the developing countries. This will also give developed countries additional flexibility to use their discretion. All these effectively block market

<sup>27</sup> Although Canada's second case on lentil products can be seen as a relaxation of measure in terms of MRLs, the nature has changed from protecting its territory from other damage by pests (general) to food safety (specific). A further analysis is required to understand what is the linkage between the changes observed in the movement of objective/nature and subsequent movement in the MRL (measured in the form of particles per million).

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<sup>&</sup>lt;sup>26</sup> This is particularly true in developing countries where even pesticide-related health studies are few in number (Ante and Pingali, 1992; Crissman and others, 1994; Dung and Dung, 2003; and Pingali and others, 1994). An FAO analysis of pesticide composition revealed high shares of toxic chemicals that are known to cause cancer, genetic damage, foetal damage, and severe allergic responses in exposed populations (e.g., carbamates and organophosphates in insecticides, and dithiocarbamates and inorganics in fungicides). As cited by Dasgupta, Meisner and Mamingi, 2005.

access by developing countries' agricultural exports (Swann, 2010; Disdier, Fontagne and Mimouni, 2007; and Fontagne, Mimouni and Pasteels, 2005).

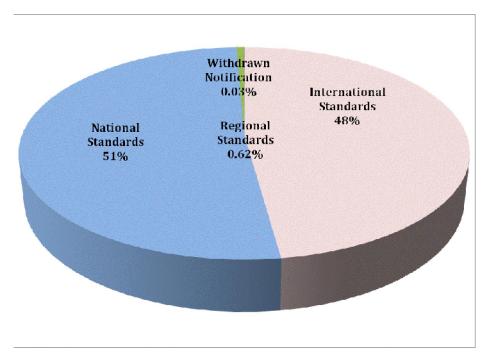


Figure 9. National vs. international standards – developing Members

Source: Centre for WTO Studies online database on SPS notifications.

Developing Members have also applied their national standards to 51 per cent of their notifications. However, the share of notifications following international standards (48 per cent) was not significantly lower. Only 1 per cent of these Members' notifications applied regional standards.

It was found that even in the case of emergency measures, while the majority of such measures (73 per cent) imposed by developing countries were international standards, developed countries made relatively higher use of national and regional standards (60 per cent).

#### (d) India's applications of SPS measures

From 1995 to July 2010, India made 84 SPS notifications, covering 2,444 products at the four-digit level. This compares poorly with China's 364 notifications.

While the general trend observed is that developing countries showed an increasing trend in terms of SPS notifications, India showed low yearly notification of SPS measures. Although the cumulative shares kept increasing for all the later years, another contrasting trend observed in Indian notifications was that it decreased in the second phase (Post-Doha, 2005-2010).

20 90 18 80 70 Number of notifications 50 40 30 20 10 2 2002 2003 2004 2005 2006 2007 2008 Cumulative Notif.'s --Yearly SPS measure

Figure 10. Total SPS notifications by India

Source: Centre for WTO Studies online database on SPS notifications.

The highest recorded level for the whole period was in 2006 when it touched 17 measures. Coincidently, this was also the period of aggressive voluntary tariff liberalization undertaken by India, leading to a substantial reduction of its applied MFN rates.<sup>28</sup>

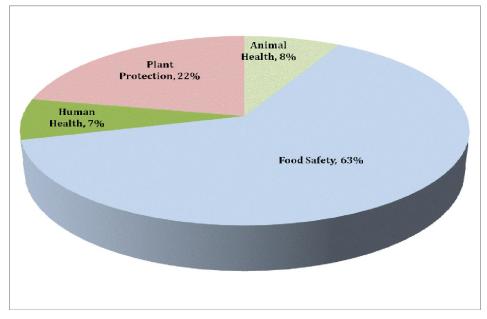


Figure 11. India's SPS measures and use of objectives

Source: Centre for WTO Studies online database on SPS notifications.

<sup>&</sup>lt;sup>28</sup> The Indian MFN applied tariff trade-weighted average fell sharply to 6.6 per cent in 2010 from a high of 24.8 per cent in 2000/01. Similarly, the simple average MFN applied tariff fell to less than 10 per cent in 2010/11 from 31.8 per cent during 2000-2004.

In terms of objectives, food safety accounted for the largest number (63 per cent) of Indian SPS notifications. Although in term of objectives of standards, the domination of the food safety category was similar to the trend observed in the case of some developed countries; these were largely international standards in the Indian case as opposed to national standards in the case of developed countries. Following closely was plant protection with a 22 per cent share. Animal health accounted for 8 per cent of India's notifications while human health accounted for another 7 per cent.

Specifically, the use of national standards was very low for India with an 18 per cent share of the total. India has thus been a strong proponent of international standards, with 82 per cent share of the country's total SPS notifications being international standards.

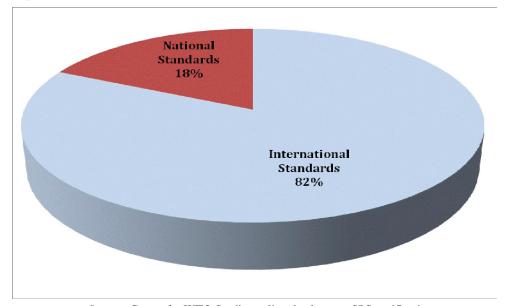


Figure 12. Indian SPS measures and its national vs. international standards

Source: Centre for WTO Studies online database on SPS notifications.

#### (e) SPS measures under Indian FTAs

When it comes to regional and bilateral free trade agreements (RTAs and bilateral FTAs), which have been on the rise, mutual recognition agreements (MRAs) are the important focal points for any discussion on SPS measures and TBT. So far, India has been involved in MRAs that agree mostly with its domestic standards or international standards. However, in the case of trade agreements with developed countries such as the European Union or Japan, signing MRAs would mostly mean agreeing to the standards of those countries. With the upgrading of national measurement methods and primary reference standards being used by developed countries during more recent years, as a result of scientific advances, India is facing huge challenges in negotiating MRAs. This is because India has been a sparse user of SPS measures and this implies that, under MRAs, new measures have to be agreed on for products, in cases where they are non-existent. However, given the "national treatment" principle, it becomes binding on the country to apply such measures to domestic firms in the agriculture sector and the food processing industry.

The presence of medium, small and micro enterprises (MSMEs) in the Indian economy is relatively high. However, there are varying figures on the share of this sector

in GDP, primarily on account of the fact that the sector is unorganized. In India, this has been the most significant challenge for the introduction of any new measures (SPS) for the agricultural and food processing sectors.<sup>29</sup>

The OECD countries, for example, require certification that exporting countries have complied with the OECD Principles of Good Laboratory Practice (GLP). Complying with these new standards will clearly increase the cost of production for the majority of Indian agro-processing units, which are in the unorganized MSME sector.

Therefore, while negotiations under the Agreement on Agriculture (AoA) under the Doha Round gave hope to developing countries that opening up the global economy would be beneficial for the farmer communities, the outcome until now has not been encouraging due to numerous distortions and market access barriers in the developed nations. These countries are also distorting international trade in the agriculture sector by adopting new and more stringent non-tariff barriers by the use of technologically intensive standards and regulations. In addition, developed countries are enjoying a comparative advantage in the agriculture sector due to the huge domestic support given to their farmers (Ratna and others, 2010).

### 2. Issues of transparency in the SPS Agreement

While working on the SPS and TBT measures that have been notified by WTO Member countries, this study found that many notifications under the SPS Agreement contained critical errors. This section highlights some of these cases that would have otherwise gone unnoticed, since these "systemic problems" in the process of notification to the WTO Secretariat exacerbate the market access prospects for developing countries.

As mentioned above, WTO Members are obliged by the "transparency clause", covered by Article VII and Annex B of the SPS Agreement, to notify the WTO Secretariat of any SPS measure having an adverse effect on international trade, directly or indirectly. These notifications are supposed to provide information under a prescribed format as mandated by the Agreement on SPS, which will then cover all aspects of the obligatory information. Further, according to the SPS mandate, the Members are to "ensure" not only that all SPS measures – such as regulations, laws, decrees and ordinances – are published promptly to enable interested Members to become acquainted with them, but also that sufficient time is provided for comments within 60 days.

When CWS was collating SPS and TBT notifications to create the database, many areas of concern were found with regard to non-disclosure of certain critical information when a notification is submitted to the WTO Secretariat. Several common errors were found across the notifications made under the SPS Agreement that do not adhere to the true spirit of the Agreement, i.e., to provide "complete information". These can be broadly categorized into six different issues:

(a) Issue 1. Several notifications are received by the Secretariat on the same day from a single WTO member, wherein all the notifications refer to the same product, without much variation in the objective;

<sup>&</sup>lt;sup>29</sup> Any new import measure would have to be equally imposed on the domestic segment of the sector on which the regulation may have an impact. Therefore, to ensure that it does not infringe upon the national treatment, the principles of the SPS Agreement coverage – see Article XIII (Implementation) – are extended to regional or non-governmental entities or local governmental bodies. Therefore, all sectors of the domestic economy are covered.

- (b) Issue 2. The notifications are in a different language (most often the national language) other than the three official languages of WTO;
- (c) Issue 3. The notifications give very broad categories of product coverage (products are not mentioned as per the HS nomenclature);
- (d) Issue 4. The purpose or objective of the notification is not mentioned or is otherwise very vague;
- (e) Issue 5. Even in normal as well as emergency SPS notifications under Article 2, very little time or less than the usual time is given for comments;
- (f) Issue 6. The notification provides completely wrong CCCN/HS nomenclature.

#### (a) Issue 1

Several notifications were received on the same date addressing the same products without much variation in terms of the objectives. An example in this category would be the notifications made by Australia (G/SPS/N/AUS/219 and G/SPS/N/AUS/220, dated 21 December 2007), which addressed "Food in general". Both these notifications were dealt with MRLs.

Repetitive notifications by a single country on the same date can make the job of exporters really cumbersome, thus defeating the purpose of trade facilitation. To explain this phenomenon in detail, if an exporter were to export a "food item" to Australia, the concerned exporter would have to check a minimum of two notifications of the same date in order to see whether the products to be exported were in conformity with the specified domestic standards.

#### (b) **Issue 2.**

In some instances, the notification is primarily in English or any of the two other official languages of WTO, but the "main text" containing the details regarding the nature of standards/regulations is in a different language. In most cases, it is the national language of the Member. Examples of such SPS notifications are: G/SPS/N/BHR/9, 16 June 2008; G/SPS/N/THA/12, 21 October 1998; G/SPS/N/CHN/104, 10 January 2008; and G/SPS/N/KOR/285, 1 July 2008. By not putting the main documents related to the details on the SPS measure in any one of the official languages of WTO, these notifications all violate one of the three basic principles of WTO, i.e., transparency.

While most developed Members use one (or more) of the three WTO languages, it is the developing Members who have emerged as major violators. This is because they are exempted from this requirement. However, the non-usage of WTO's official languages in notifications is becoming a major challenge for developing country exporters and LDCs.

The other issue that has emerged is that frequently there is no response to repeated requests or queries sent to the notifying Member by individual exporters/apex chambers of commerce or national governments. It is therefore a waste of the exporters' time. Currently, there are no built-in reprisal mechanisms either through the SPS Agreement or in the Dispute Settlement Understanding (DSU). These are unnecessary

<sup>&</sup>lt;sup>30</sup> As per the system the notifications only partially fulfils transparency provisions, because the complete document technically which is inclusive of the regulation/legislation or ordinances, these three not in the WTO's official languages being English, Spanish and French.

hurdles for exporters in LDCs and developing countries. At present, LDCs and developing Members are forced to use the non-official translations provided by developed country Members. Having, little or no resources, to under the Agreements as practiced today.<sup>31</sup> It should also be noted that such notifications cannot be taken to the DSU of WTO precisely for the reasons mentioned above.

#### (c) Issue 3

Some SPS notifications provide very broad categories of product coverage and are not mentioned as per the HS nomenclature. It could be anything, for example: prepackaged food products; food additives; or agricultural products. Typically, these notifications do not suggest a list of HS nomenclatures or any particular set of products, but only a vague list of products that are covered by technical regulations, laws, decrees and ordinances. A number of such notifications, both from the developed and the developing Member countries, were made from January 1995 to August 2010. Some examples of such notifications include: G/SPS/N/KOR/285, 01/07/2008; G/SPS/N/USA/1751, 18 January 2008, and G/SPS/N/USA/1880, 31 October 2008.

A complicated issue is that where neither product nor HS nomenclature is mentioned. An example is G/SPS/N/NIC/54, 30 September 2010. Such notifications lead to the use of discretional powers by customs officials. There is no certainty that the MFN principle will be applied, and products relevant to certain domestic interests may be refused entry at the ports (dry or wet). Again, this is against the fundamental principle of "predictability" of trade policy as visualized by WTO.

#### (d) Issue 4

During the period under study, only one notification – G/SPS/N/EGY/5, 11 November 2005 – had neither specific objective. This will lead to discretional powers being used by customs officials with regard to the application of the objectives. As in Issue 3, the country or the exporter concerned will not be certain of the exact status of the objectives being applied to the product(s). It will then depend on a case-by-case approach while the application of the MFN principal (non-discrimination) is not guaranteed. In addition, such products may also be subjected to violations on account of the National Treatment (NT) principle upon entry at dry or wet ports. Again, such notifications can lead to violation of the "predictability" principle.

#### (e) Issue 5

Generally, any notification should provide 60 days for comments by the public or other Members. This time period is the gap between the date of circulation and its actual entry into force.<sup>33</sup> This is to allow time for producers in exporting Member countries, particularly developing countries, to adapt their products and production methods to meet

<sup>31</sup> Non-official translations provided by developed country Members cannot be depended upon, even though these are currently freely accessible. There is an urgent need for a permanent mechanism to settle such issues of transparency. The provisions that are presently build into the SPS and TBT agreements do not favour a non-official translation of the main regulation/legislation or ordinances, when they come up under the Dispute Settlement Understanding of WTO.

<sup>&</sup>lt;sup>32</sup> This is contrary to the recommended procedures before any notification is made to the WTO Secretariat by Members, which lay down clear guidelines on the various fields that would be necessary for inclusion in the process of routine notifications. For details, see Annex A-1, G/SPS/7/Rev.3, pp.11-15, 20 June 2008.

<sup>&</sup>lt;sup>33</sup> Recommended Procedures for Implementing the Transparency Obligation of the SPS Agreement (Article 7) as of 1 December 2008, under the Committee on Sanitary and Phytosanitary Measures, G/SPS/7/Rev.3, 20 June 2008.

the requirements of the importing Member countries. This period can also be used by Members to raise any comments regarding the notified SPS measure. It also provides a comfortable period for those who feel that the particular measure is not in conformity with a prevailing international standard to seek scientific justification if found otherwise.<sup>34</sup> An exception for the "comments period" is made only in the case of urgent/emergency notifications.

It has been found that the period given in the case of many notifications was either less than the normally prescribed period, or that the measures had already come into force as per the date of public circulation. Some examples are: G/SPS/N/ARG/117, 12 March 2008; G/SPS/N/BRA/384, 15 January 2008; and G/SPS/N/BRA/411, 19 May 2008.

It should be noted that Article 10.2 of the Agreement provides for special and differential treatment to developing and LDC Members in terms of a phased introduction of new SPS measures and longer timeframe for compliance with regard to products of export interest to developing countries so that their opportunities for exports can be maintained. Thus, the fact that the period for comment is reduced, or does not even exist, can have serious implications for developing countries and LDCs who would not be able to adopt the SPS measures and maintain their exports to the markets in developed and developing countries.

#### (f) Issue 6

If the notification provides a wrong CCCN/HS nomenclature, it can be misleading. Some examples are G/SPS/N/BHR/27 (fresh tomatoes), 10 February 2009 G/SPS/N/BHR/21 (apricots), 10 February 2009, and G/SPS/N/BHR/23 (dried figs), 10 February 2009, which used HS 20.05. However, HS nomenclature 20.05 represents "other vegetables prepared or preserved otherwise than by vinegar or acetic acid, not frozen."

Taking the products mentioned in the notifications at their face value would have made this database preparation completely useless, due to this inherent inaccuracy in the notifications. The notifying country should have requested technical assistance from the Secretariat, after the decision on the nature of standard had been made internally.

Any SPS notification that provides all the relevant information in the right manner can be called an "ideal" notification or "complete information" notification. An ideal notification is one that contains all requisite information in the right order and place, such as the exact HS, an exact description, objective and international standard etc. The best example of this type of notification is G/SPS/N/EEC/331, 14 July 2008. It is important that all notifications under the SPS Agreement should be "ideal". This will help to reduce the element of subjectivity exercised by importing Members and thereby lend more objectivity to the use of SPS measures.

#### 3. Conclusion

As tariff barriers are increasingly being reduced under successive rounds of international trade negotiations, concern has been expressed that the diminished tariff

<sup>&</sup>lt;sup>34</sup> The WTO Committee on Sanitary and Phytosanitary Measures, Major Decisions and Documents, summer 2008.

protection is being replaced by tighter regulation of agricultural and food imports through WTO-compatible measures.<sup>35</sup> This paper has established that standards have indeed become increasingly important as trade policy instruments in the developed and developing world for protection or regulatory purposes.

There is sufficient evidence that the SPS measures are barriers to international trade flows. It was found that even though 53 per cent of total SPS notifications from 1995 to July 2010 were made by developing countries, flexibilities built into the Agreement for basing standards on scientific evidence has made the SPS Agreement biased against developing country exporters' interests. The SPS Agreement considers developed and developing Members to be on a similar platform in terms of technology and domestic needs, while the reality is completely different.

It was also found that developed countries were using national standards to a more significant degree than developing countries. However, differences in national standards create barriers to trade, with developed country standards being higher in many cases and often much higher than developing countries' technological capabilities. Thus, the discretion provided in the Agreement for basing standards on scientific evidence and the use of local health requirements has led to disguised protection of domestic agricultural sectors, especially among developed countries. Developing country exporters are unable to realize their market access potential in the QUAD countries because of these trade-restrictive measures. Exports of food products from developing countries face a formidable hurdle in the form of SPS measures imposed for health and safety reasons by developed countries. The cost of complying with these, often stringent, SPS standards is highly burdensome, particularly for low-income countries, and non-compliance would entail a damaging loss of export earnings.<sup>36</sup>

At the same time, there are many imbalances in the implementation of the SPS Agreement. Many Member countries are not following the templates suggested by the WTO Secretariat for submitting notifications. While working on the online database, many notifications were found to contain errors. Some of these issues were in terms of: (a) not giving sufficient time for comments; (b) the main text of regulations not being made available in official WTO languages; (c) repeated notifications on the same product and same context; and (d) wrong HS nomenclature of products covered. These problems still persist even 15 years of the existence of WTO.

In order to address these issues, there is an urgent need for increased surveillance, both by the WTO Secretariat and by the Members; however, this cannot be done by any single party. The notifying countries could also receive technical assistance from the WTO Secretariat. Further, this paper recommends that there should be a permanent mechanism for ensuring that the use of official WTO languages mandated by the Agreement is adhered to by all Members. Various proposals are on the table to address the issues related to the implementation of the Agreement; one such proposal is to address them through the dispute settlement mechanism. In such a situation, the use of WTO languages will become even more important.

It is clear that for those small and medium-sized countries in which a significant proportion of their population depends on agricultural and processed food exports, an increase in market access is crucial in the short term. The primary concern of market access will not be addressed in its true sense for the majority of such WTO Members,

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<sup>&</sup>lt;sup>35</sup> See, for example, OECD, 2003.

<sup>&</sup>lt;sup>36</sup> See also Shafaeddin, 2009.

unless non-tariff measures are simultaneously addressed in the Doha Round together with tariffs.<sup>37</sup> While there have been some negotiations within the WTO committees, there has been little progress in terms of addressing these concerns.

There is an urgent need for discipline in the usage of SPS measures as a tool for "disguised" protection. This can be possible only if the entire WTO membership works towards a harmonious blending of three issues, i.e., science, safety and trade. This can be best achieved by harmonizing the standards/regulations across the various WTO Members under the intra-governmental bodies already identified by the SPS Agreement. In many circumstances, harmonization with international SPS standards can act to reduce the regulatory trade barriers created by national standards. This would also prevent WTO Members from arbitrary or unjustifiable discrimination due to different SPS standards. However, it is important to note that because of the national treatment principle, the use of SPS measures must also be applied to domestic production processes. This clearly means that the imperative on the part of developing country governments to support the technological upgrading of their domestic agricultural sectors has become extremely urgent.

In summary, the agricultural sector of developing countries sector has, in general, come under even greater pressure because of the technological divide between developed and developing countries. The distortion effect of NTMs exceeds the impact if an equivalent level of tariff has been imposed by countries, as it has a prolonged effect on the various segments of production and marketing value chains due to the uncertainty generated around the rules of trade. This has significant implications for the allocation of production, consumption and trading activities across developing countries.

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<sup>&</sup>lt;sup>37</sup> See, for example Dhar and Kallumma,12007.

<sup>&</sup>lt;sup>38</sup> See also Mehta, George and Saqib, 2002.

#### References

- Ante, Jhon M and Pingali, Prabhu L., 1994, "Pesticides, Productivity, and Farmer Health: A Philippines Case Study", *American Journal of Agricultural Economics*, vol.76, no.3, pp.418 430.
- Babili, M., 2009. "Ad Valorem Equivalent in the WTO", Working Paper No. 43, National Agricultural Policy Centre, Ministry of Agriculture and Agrarian Reforms. Damascus.
- Crissman, Charles C., Cole, Donald C. and Carpio Fernando, 1994, "Pesticide Use and Farm Worker Health in Ecuadorian Potato Production", *American Journal of Agricultural Economics*, vol.76, no.3, pp.593 597.
- Das, K., 2008. "Addressing SPS challenges in India", 1 September. Available at <a href="http://ssrn.com/">http://ssrn.com/</a>.
- Dasgupta, S., C. Meisner and N. Mamingi, 2005. "Pesticide traders' perception of health risks: Evidence from Bangladesh", *World Bank Policy Research Working Paper* No. 3777. Washington, D.C.
- Dhar, B. and M. Kallummal, 2007. "Taming non-tariff barriers: Can WTO find a solution?" *Studies on Trade and Investment*, No. 61, pp.131-180. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok.
- Disdier A.C., Fontagne L. and M. Mimouni, 2007. "The impact of regulation on agricultural trade: Evidence from SPS and TBT Agreements", *CEPII Working Paper*, No. 2007-04. Centre d'Etudes Prospectives et d'Informations Internationales, Paris.
- Dung, N.H and T.T.T. Dung, 2003, "Economic and Health Consequence of Pesticides Use in Paddy Production in the Mekong Delta, Vietnam", EEPSEA Research Reports 39. Available at <a href="http://203.116.43.77/publications/research1/ACF124.html">http://203.116.43.77/publications/research1/ACF124.html</a>.
- Fontagne, L., Mimouni, M. and J. M. Pasteels, 2005. "Estimating the impact of environmental SPS and TBT on international trade", *Integration and Trade Journal*, vol.28, no.19; pp.7-37.
- Grossman, G. M. and A. B. Krueger, 1995. "Economic growth and the environment", *The Quarterly Journal of Economics*, vol.110, No.2; pp.353-377.
- Jaiswal, A. K., 2003. "WTO Agreement on SPS: Strategic implications", *Economic and Political Weekly*, 8 November; pp. 4737-4742.
- Kallummal, M., Gupta A. and V. Poornima, 2012, "Agricultural Trade from South-Asia and the Impact of SPS Measures: A Case Study European Rapid Alert System for Food and Feed (RASFF)", paper to be presented at the international conference on Public Policy and Governance, Indian Institute of Science, Bangalore, 6-7 September.
- Kallummal, M., V. Poornima and P. Prabhakar, 2011, "An analysis of India and EU trade in the chemical sector: Testing for the evidence on pollution haven hypothesis", mimeo, Centre for WTO Studies, Indian Institute of Foreign Trade, New Delhi.
- Kallummal, M. and H. M. Gurung, 2010a. "Sanitary and phytosanitary measures and analysis of systemic issues: Trends based on the online database of CWS 1995 to 2010", *India, WTO and Trade Issues Bi-monthly Newsletter*, vol.1, No.15.

- ———, 2010b. "How the technology for detection has changed in terms of NTMs measurement scales in the case of SPS standards: The select eight cases from QUAD countries", draft report (mimeograph) submitted to Department of Commerce and Industry, Centre for WTO Studies, Indian Institute of Foreign Trade, New Delhi.
- Korinek, J., M. Melatos and M. Rau, 2008, "A review of methods for quantifying the trade effects of standards in the agri-food sector", OECD Trade Policy Working Paper, No.79. Paris. Available at <a href="http://dx.doi.org/10.1787/235833787115">http://dx.doi.org/10.1787/235833787115</a>
- Lesser, C., 2007, "Do bilateral and regional approaches for reducing technical barriers to trade converge towards the multilateral trading system?" *OECD Trade Policy Working Paper No. 58.* Paris.
- Liu, Lan and Yue, Chengyan, 2009. "NTBs to Trade caused by SPS measures and customs procedures with product quality changes", *Journal of Agricultural and Resource Economics*, vol.34, No.1; pp.196-212.
- Mani, M., 1996. "Environmental tariffs on polluting imports: An empirical study", Environmental and Resource Economics, vol.7, pp. 391-411.
- Mehta, R., J. George and M. Saqib, 2002. "Addressing sanitary and phytosanitary agreement: A case study of select processed food products in India", RIS Discussion Paper No. 39. Research and Information System for Developing Countries, New Delhi.
- OECD, 2003. The Impact of Regulations on Agro-Food Trade: The Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS) Agreements, vol. 2003, No. 27, pp. 1-153, Paris, France.
- Pingali, Prabhu L., Marquez, Cynthia B., and Palis, Florencia G., 1994, "Pesticides and Philippine Rice Farmer Health: A Medical and Economic Analysis", *American Journal of Agricultural Economics*, vol.76, no.3, pp.587 592.
- Ratna, S. R., S. K. Sharma, M. Kallummal and A. Biswas, 2010. "Agriculture under WTO regime: Cross-country analysis of select issues", Discussion Paper No. 5, Centre for WTO Studies, Indian Institute of Foreign Trade, New Delhi.
- Robison, D. H., 1988. "Industrial pollution abatement: The impact on the balance of trade", *Canadian Journal of Economics*, vol. 21; pp.702-706.
- Shafaeddin, M., 2009. "The cost of compliance with sanitary and phytosanitary measures in low-income countries: A strategy for reorganization of the supply chain", Third World Network. Available at <a href="https://www.twnside.org.sg">www.twnside.org.sg</a>.
- Swann, G. P., 2010. "International standards and trade: A review of the empirical literature", OECD Trade Policy Working Paper, No. 97, Paris. Available at <a href="http://dx.doi.org/10.1787/5kmdbg9xktwg-en">http://dx.doi.org/10.1787/5kmdbg9xktwg-en</a>.
- Tobey, J. A., 1990. "The effects of domestic environmental policies on patterns of world trade: An empirical test", *Kyklos*, vol.43, No. 2; pp.191-209.
- United Nations Conference on Trade and Development, 2010. "Non-tariff measures: Evidence from selected developing countries and future research agenda", *Developing Countries in International Trade Studies*. Geneva.
- Vaillant, M., 2011. "How to encourage the network trade rules interconnections? An application to the case of non-tariff barriers", *Trade and Development Symposium*

- Perspectives on the Multilateral Trading System: A Collection of Short Essays. International Centre for Trade and Sustainable Development, Geneva.
- WTO, 2008a. Committee on Sanitary and Phytosanitary Measures, G/SPS/7/Rev.3, 20 June 2008. Geneva.
- ———, 2008b. Committee on Sanitary and Phytosanitary Measures, "Major decisions and documents", Summer 2008. Geneva
- ———, 1995. "The legal text: The results of Uruguay Round of multilateral trade negotiations", Agreement on Sanitary and Phytosanitary Measures. Geneva.

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