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**STRENGTHENING DEVELOPING COUNTRIES'
CAPACITIES TO RESPOND TO
HEALTH, SANITARY AND ENVIRONMENTAL
REQUIREMENTS**

A Scoping Paper for South Asia

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Acronyms

| | |
|---------|---|
| ACIAR | Australian Centre for International Agricultural Research |
| APEDA | Agriculture Promotion and Export Development Authority (India) |
| APP | Agriculture Perspective Plan (Nepal) |
| BIMSTEC | Bangladesh, India, Sri Lanka, Myanmar and Thailand Economic Cooperation |
| BIS | Bureau of Indian Standards |
| CFTRI | An edible colour in food products |
| DAE | Department of Agricultural Extension |
| DEA | Department of Export Agriculture |
| DDT | A chemical used to control mosquito |
| DFTQC | Department of Food Technology and Quality Control (Nepal) |
| DoF | Department of Fisheries |
| EMRL | Estimated Maximum Residue Level |
| EPB | Export Promotion Bureau (Pakistan) |
| ESA | European Spice Association |
| ETO | Ethylene Oxide |
| EU | European Union |
| FOB | Free on Board |
| GAP | Good Agricultural Practice |
| GATT | General Agreement on Tariffs and Trade |
| GMP | Good Manufacturing Practice |
| GOB | Government of Bangladesh |
| HACCP | Hazard Analysis Critical Control Point |
| ICAR | Indian Council of Agricultural Research (India) |
| ICMR | Indian Council for Market Research (India) |
| IDRC | International Development Research Centre |
| IPCC | International Panel on Climate Change |
| IPM | Integrated Pesticide Management |
| INM | Integrated Nitrogen Fertilizer Management |
| ISO | International Organisation for standardisation |
| JECFA | Joint European Commission Food Association |
| LDC | Least Developed Country |
| MFN | Most Favoured Nation |
| MOU | Memorandum of Understanding |
| MRL | Maximum residue level |
| MTS | Multilateral Trading System |
| NEP | National Enquiry Point |
| NIN | An edible colour in food products |
| OIE | International Office of Epizootics |
| PCP | Pentachlorophenol |
| PFA | Prevention of Food Adulteration Act |
| PPM | Parts per million |
| | Process and Production Method |
| P&A | Personnel and Administration |
| P&E | Planning and Evaluation |
| R&D | Research and Development |
| SAARC | South Asian Agreement on Regional Cooperation |
| SAU | South Asian Union (India) |
| SLSI | Sri Lanka Standards Institution |

| | |
|--------|--|
| SMEs | Small and medium sized enterprises |
| SPS | Sanitary and phytosanitary |
| S&D | Special and Differential Treatment |
| TBT | Technical Barrier to Trade |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| USA | United States of America |
| USFDA | United States Food and Drug Administration |
| WTO | World Trade Organization |

INTRODUCTION

1. This South Asian component of the project has been designed to undertake a survey of trade impacts of environmental standards and SPS measures and explore policies to strengthen capacities of developing countries to respond to such requirements. This scoping paper for South Asia has been prepared on the basis of the following:

- Empirical evidence on selected sectors, gathered by South Asian researchers. The methodology is set out in Annex III.
- Papers submitted to a regional seminar, organised jointly with the World Bank¹ (New Delhi, 11 to 13 January 2001), as well as interventions and ensuing discussions at the seminar. Participants from Bangladesh, India, Nepal, Pakistan and Sri Lanka participated in this seminar,
- Interviews with policy makers
- Complementary research under other technical co-operation projects and UNCTAD secretariat studies.

2. Part of the information was collected through interviews conducted with representatives from approximately 20 fruit and 20 rice exporting firms in the New Delhi area. In addition, jointly with the Federation of Indian Chambers of Commerce and Industry (FICCI), the project organised a brainstorming session with roughly 40 food processors in the Delhi area.

3. At the seminar jointly organised with the World Bank, five papers on country experiences were submitted. These included the following:

- | | |
|-------------------|---|
| Bangladesh | Mr. Sahadad Hussain, Member Director, Bangladesh Agricultural Research Council, “ <i>SPS measures and Environmental Management in Bangladesh</i> ”. |
| India | Charles Kittu, Deputy Director, Spice Board, India, “ <i>Issues on SPS and Environmental Standards for India- the case of spices</i> ”. Mr. Basu, Principal Scientist, Indian Council for Agricultural Research, Junagarh, “ <i>Issues on SPS and Environmental Standards for India- the case of aflatoxin in peanuts</i> ”. |
| Nepal | Tika Karki, Director General, Department of Food Technology and Quality Control, Nepal, “ <i>Issues on SPS and Environmental Standards for Nepal</i> ”. |
| Sri Lanka. | Mr S.L. Ginige, Assistant Director (Agriculture and Food), Sri Lanka Standards Institution, “ <i>Issues on SPS and Environmental Standards in Sri Lanka</i> ”. |

¹ “A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia”, New Delhi, January 11-13, 2001. Agenda and the list of participants are attached as annexes to this report.

4. In addition, the following papers presented at the seminar have been used as a source of information and analysis for this scoping paper:

Mr. Sarfraz Khan Qureshi, Pakistan Institute for Development Economics, Islamabad, *“Agriculture and the New Trade Agenda in the Next WTO Round: Evaluation of Issues, interests, Options and Strategies for Pakistan”*.

A.K.M Abu Bakar Siddique, *“An Overview of Agriculture, Agricultural trade in Bangladesh in the Context of Technical barriers, SPS and Environmental Standards”*

5. Based on the above, the empirical analysis carried out under the project has focused on the following products (see Chapter III)

Marine products (Bangladesh, India, Pakistan)

Peanuts (India)

Mango pulp (India)

Rice (India, Pakistan)

Spices (India, Sri Lanka)

Tea (India)

6. This scoping paper is organized as follows: Chapter I briefly list the main provisions of TBT and SPS agreements and will discuss the main problems that developing countries have with these standards. Chapter II will identify the main constraints faced by South Asian developing countries in complying with SPS and environmental standards. Chapter III examines the impact of environmental requirements and SPS measures on exports of specific products from South Asia. Chapter IV outlines the domestic policies of South Asian countries on these issues. Chapter V discusses ways forward to mitigate the negative effects of SPS and other standards. It focuses on appropriate policies at the national level and international levels as well as the role of the multilateral trading system (MTS).

I. THE TBT AND SPS AGREEMENTS

A Introduction

7. The Agreement on Technical Barriers to Trade (TBT) aims to ensure that technical regulations, standards and conformity assessment procedures do not create unnecessary obstacles to trade. In that context, however, it recognizes that each Member should not be prevented from taking measures necessary to protect human, animal and plant life or health or the environment, and that each country has the right to set the level of protection that it deems appropriate in these areas. The Agreement encourages Members to use international standards where these are available, but it does not require countries Members to harmonize their domestic regulations and standards upwards or downwards as a result of international standardization activities. This Agreement is subject to the same principles as the GATT, i.e. Articles I and III are the cornerstone of it, and exceptions or Article XX also apply to the TBT Agreement.² This Agreement incorporates a Code of Good Practices that has been developed on a “best endeavour” basis for voluntary standards.

8. The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) addresses a variety of measures used by governments to ensure that human and animal food is safe from contaminants, toxins, disease-causing organisms and additives, and measures to protect human health from pests or diseases carried by plants and animals. The TBT Agreement does not cover these measures. The SPS Agreement explicitly recognizes the right of governments to take measures to protect human, animal and plant health, but where trade restrictions result, these measures should be taken only to the extent necessary for health protection, on the basis of scientific principles and evidence. If there is insufficient scientific evidence, governments may temporarily impose precautionary restrictions while they seek further information. Governments are to determine the level of health protection they consider to be appropriate on the basis of an evaluation of the risks involved. SPS measures are to be applied in a non-discriminatory manner. Furthermore, if there are a number of measures, which could be used to ensure the determined level of health protection, governments are to use those, which are no more trade restrictive than necessary to achieve the appropriate level, if these are technically and economically feasible.

9. The implementation of the Agreements and the ways in which Panels have interpreted key Articles are examined in Annexes I and II. The next section is restricted to an examination of the provisions from the point of view of developing countries.

² Articles I and III deal with the most favoured nation theory and with national treatment, which advocates non-discrimination between contracting parties in trade. Article XX is the clause on general exceptions where contracting parties may on the basis of some provision restrict the free movement of goods and services.

B Developing country concerns with SPS and TBT

Developing country concerns with SPS

10. The SPS Agreement (Art.3.1) encourages members to use international standards in their regulations. If national regulations conform to international standards then there is a rebuttable assumption that they do not constitute unnecessary restrictions to trade. Currently, the international standards formulation procedures are not uniform: - e.g. for food, there are two major International Standardising Organisations, i.e. the International Organisation for standardisation (ISO) and the Codex Alimentarius. Since increasingly these standards are arrived at not by consensus but by a majority vote, in practice a relatively small number of countries can set standards for all.

11. Many developing countries find it difficult to effectively participate in the standardization process due to lack of technical expertise and/ or financial constraints. Even though, 89 per cent of all countries are in the category of developing/least developed countries, since most of them are unable to attend the meetings of the Standardisation Committees, the developed countries fix standards which are often difficult for developing countries to comply with.

12. Article 10 of the SPS Agreement provides for Special and Differential Treatment (S&D) for developing countries. This Article enjoins upon Members to take account of the special needs of the developing countries as well as the LDCs. It seeks to do so by:

- Allowing longer time frames for compliance with new SPS measures.
- Granting, upon request, time limited exception for fulfilling obligations under this Agreement.
- Encouraging and facilitating the active participation of developing country members in the relevant international organisations.

13. In the absence of codification of these provisions of Article 10 they remain as “best endeavour clauses” instead of being mandatory.

14. The Doha Declaration has further stressed the right of countries to: We recognize that under WTO rules no country should be prevented from taking measures for the protection of human, animal or plant life or health, or of the environment at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, and are otherwise in accordance with the provisions of the WTO Agreements. This appears to weaken the role of international standards or rather appears to provide more leeway to countries to diverge from international standards. While the second part of the second qualifies the first it does appear to uphold the current trend of national standard setting especially on environmental issues.

15. Article 3.3. of the SPS Agreement permits members to introduce or maintain SPS measures of a higher level than that dictated by international standards provided there is a scientific justification for adopting these higher standards. As a result of this clause, exporters from developing countries have to comply with varying standards set by countries and quite often they do not know how to meet these higher standards. There have been many instances

of the goalposts being moved by the developed countries as soon as the standards initially set by them are met e.g. EU has been raising the SPS standards frequently for imports of animal or aquatic products. Sometimes, different standards are set for the importation of a particular agricultural product in different states of a country e.g. U.S.A.

16. Further more the cost of meeting these standards could be prohibitive. For example a recent World Bank study predicts that the implementation of a new aflatoxin standard in the European Union will have a negative impact on African exports of cereals, dried fruits and nuts. Based on an econometric model it is estimated that the EU standard, which would reduce health risk by approximately 1.4 deaths per billion a year, will decrease African exports of these products to the EU by 64 percent or US\$ 670 million.³ The balance between precaution (Article 5) and trade displacement has also been difficult to achieve as is shown by this example. According to the EU Agriculture commissioner Fischler, the Doha Declaration has widened the cover for measures based on precaution. This has the potential to disrupt trade from developing countries. Another problem stems from the lack of correct understanding of Article 4 of the SPS Agreement, which stipulates that measures, which are demonstrably equivalent, should be acceptable. Some members of the WTO have interpreted equivalence to mean sameness in the use of technology to achieve the required level of SPS protection. The Doha Declaration on Implementation has urged members to move forward on this issue.

17. Another cause for concern is the recent trend in SPS on the introduction of “production process” measures. In these cases, the emphasis is not on the quality of the exported product but how that product was produced e.g. management practices, manufacturing facilities, types of fishing nets etc. This includes considerations of “animal welfare” i.e. how the animals were kept, transported and slaughtered.

18. While these are general problems that developing countries have reported with respect to standards under SPS Agreement, South Asian countries have some specific problems. These have been addressed in the next section.

³ Tsunehiro Otsukti, John S. Wilson and Mirvat Sewadeh, *Saving two in a billion: A case study to quantify the trade effect of European food safety standards on African exports*. Development Research Group (DECRG), The World Bank.

II. GENERAL EFFECTS OF TBT AND SPS MEASURES ON TRADE FROM SOUTH ASIA: EMPIRICAL EVIDENCE FROM THE SOUTH ASIAN REGION

A General effects

19. Food standards, strict limitations on the use of certain substances, and SPS measures are likely to have the most significant effects on market access for South Asian developing countries. UNCTAD's 1998 Least Developed Countries Report provides a series of examples of LDCs, such as Bangladesh and Nepal already having suffered significant export losses on account of their inability to respond to environmental, health and sanitary requirements in developed country markets.

20. Five SAARC countries are members of WTO with the accession of Nepal and Bhutan being in process. Many examples of SPS measures being used as non-tariff barriers were cited (at the regional workshop organised jointly by the World Bank and UNCTAD on the 11-13 January 2001). Most countries in the region are of the view that the potential gains that could have been obtained through tariff reductions have not been fully realised because of problems involved in meeting SPS standards.⁴ The share of agricultural exports in total exports from South Asia has declined marginally, perhaps due to the higher quality standards imposed by the importing countries.

21. From the South Asian region, the following examples of the impact of environment and health standards can be identified:

- A German ban on products containing pentachlorophenol (PCP) resulted in a short-term setback for Indian leather exports. The Indian leather industry had to make significant adjustments to substitute chemicals, and PCP substitutes were roughly ten times costlier;
- India's export of tea also has been affected by concerns from importing countries regarding the pesticide residue levels in Indian tea;
- In the early 1980s, several shipments of Indian marine products were detained on account of salmonella contamination. Production methods had to be changed quickly to meet importers' standards;
- Ban on the use certain hazardous chemicals (such as synthetic dyes and chemicals used for moth-proofing) in developed countries have affected handmade export items such as woollen carpets produced in Nepal and readymade garments exported by most of the South Asian countries.⁵

22. With regard to the impacts of packaging requirements of importing countries on South Asian exports, the following examples have emerged in the debate:

⁴ Ashok Jha, Proceeding of the Conference on "South Asia Workshop on Agriculture, SPS and the Environment: Capturing the Benefits for South Asia", New Delhi-11-13 January, 2001

⁵ Lalith Heengama "Trade and the Environment: A Case Study from Sri Lanka" and V.Kanesalingam "Trade and Environment: A Sri Lankan Perspective", in Veena Jha, Grant Hewison and Maree Underhill (ed), 1997, Trade, Environment and Sustainable Development, A South Asian Perspective, Macmillan and Jha.V "Environmental Regulation and the WTO" WTO Hand book, published by the World Bank, 2001

- Aluminium packs have been replaced by paper packs in the case of Indian tea.
- The use of traditional packaging materials like tea chests has caused difficulties for some Sri Lankan exporters;
- Insistence by importers has also resulted in the use of high-barrier co-extruded film instead of polythene for packaging of desiccated coconut by Sri Lankan exporters;
- The garment industry in most of the South Asian countries, too, has had to resort to changes in packaging to meet importers' demands;
- Likewise, packaging regulations have affected the woollen carpet industry in Nepal.⁶

23. Problems faced by exporters include: lack of timely and accurate information; the simultaneous application of multiple standards and regulations; the costs and difficulties of testing and verification procedures; the perceived lack of scientific data for specific thresholds or limit values; and the uncertainty arising from rapidly changing requirements in overseas markets. Phytosanitary regulations and food standards may also create market access problems on account of differing national standards, lack of transparency and inconsistent application of procedures. Thus, by increasing the risk involved in export operations, environmental factors may delay investment decisions and this may complicate the process of adjusting technologies to meet environmental standards.

B Complexity of SPS Standards

24. An example of the complexity of environmental, health and sanitary requirements being applied simultaneously can be found in the case of European Union's measures and regulations concerning fish and fishery products. These consist of both specific legislation concerning fishery products (such as health conditions for the production and placing on the market of fishery products, restrictions on veterinary medicines and the obligation to introduce a system based on the principles of Hazard Analysis Critical Control Point (HACCP) in fish processing companies⁷, as well as other relevant legislation⁸. The case of aflatoxin⁹ standards illustrates the increasing stringency of SPS measures and complexity of

⁶ Khilendra N.Rana "Making Trade and Environmental Policy Making Mutually Compatible in Nepal", Veena Jha, Grant Hewison and Maree Underhill (ed), 1997, Trade, Environment and Sustainable Development, A South Asian Perspective, Macmillan.

⁷ HACCP (Hazard Analysis and Critical Control Point) is a systematic approach to the identification of hazards and the development of control systems to reduce the risks associated with these hazards. The methodology is used extensively in the food industry (including storage and distribution) to target and reduce harmful biological, chemical or physical contaminants, and verify that control systems are working as intended to minimize or eliminate them. HACCP is not confined to food production however, and is also used in many other industries such as healthcare.

⁸ For example, legislation concerning pesticide residues (maximum pesticide residue levels, MRLs) heavy metals polychlorinated biphenyls (PCBs), food additives, radiological contamination of foods, irradiation of food, and packaging.

⁹ For an examination of the occurrence and effects of aflatoxin contamination in some Asian countries see: <http://www.fao.org/docrep/x0036e/X0036E00.htm#Contents>. This publication is an offshoot of the Regional Training Course on Mycotoxin Prevention and Control in Food grains sponsored by the Bangkok-based UNDP/FAO Regional Network for Inter-Country Cooperation on Post harvest Technology and Quality Control of Food Grains (REGNET) and the ASEAN Grain Post harvest Programme (AGPP). The course was held in Thailand 31 July-12 August 1989 and was conducted by the Plant Protection and Microbiology Division of the Department of Agriculture of Thailand.

testing methods¹⁰. Risk assessment methodologies are also getting increasingly complicated and cases of conflict of scientific data have yet to be resolved by WTO panels or otherwise.

C Main types of SPS and Environment related Problems

25. According to the List of detentions published regularly by the United States Food and Drug Administration (USFDA) the characteristics of detentions vary according to the geographical region. The major causes of detention for products from South Asia are filth, followed by microbiological contamination, low acid canned food, and labelling problems.¹¹

D Threshold Limits

26. Consumer movements, environmental protection agencies and food safety enforcement agencies are increasingly prescribing stricter and stricter standards for macro cleanliness, microbial loads, aflatoxin, and pesticide residues. Compliance with these standards have been difficult for South Asian producers, thus forcing them to seek other markets where standards are less stringent. For some products, such as fisheries there has been a significant decline in exports following the EU standards. Many exporters have questioned the fallacies of standard setting processes. For instance, Japan insists on DDT residues level of 0.4 PPM on unmanufactured tobacco while the international standard is as high as 6 PPM. Indian tobacco has a DDT residues level of 1-2 PPM, which is within the limits prescribed by the international standards, but Japan does not allow the imports of unmanufactured tobacco on phytosanitary grounds.

27. Another example is that, of Spices Board in India and in Sri Lanka which have taken up the issue of the permissible average daily intake of certain chemicals and chemical compounds before the Pesticide Residue Committee of Codex Alimentarius Commission. The argument of the Board is that spices constitute a very miniscule portion of the dishes/servings of food and therefore the maximum residue limits fixed for directly consumed agricultural products cannot be applied to spices. Similar thought process is required in other sectors too, and has already been undertaken in the case of Indian tea. However, the standards set by Codex have not changed as a consequence.

E Standard takers instead of Standard Setters

28. One of the problems of developing countries in participating in international standard setting mechanisms is the cost involved as well as the lack of technical expertise in developing a database for supporting their arguments before international bodies.

29. Participating in international standards setting processes requires a better understanding of the role of Codex Alimentarius Commission, upgrading of production and post-harvest technologies, keeping in mind the food safety standards that prevail at global level. This would require not only large investments but also education among producers,

¹⁰ See Tsunehiro Otsuki, et. al, op. cit. See also, Veena Jha, paper presented in the second workshop organized under the project Strengthening Research and Policy Capacities in Trade and Environment in Developing Countries. Havana, May 2000. Also see below the case of peanut in Section 3.

¹¹ Karki, Tika, "Issues on SPS and Food Standards for Nepal", Paper presented at the UNCTAD/World Bank workshop on "A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia", January 11-13, 2001, New Delhi.

processors and exporters, and it is going to be a long drawn out effort on the part of South Asia. Technically, South Asian countries may ask for a longer period for its implementation, but it is unlikely to yield trade benefits. A better option would be to build capacity and ask for technologies at concessional rates to help achieve these standards at an early date.

F Lack of Transparency

30. Lack of transparency in implementing SPS measures has affected exports of spices from India. For instance, Spain detained some consignments of chilli exported from India without specifying why they considered the exports contaminated by aflatoxin. There is no common regulation in the EU laying down uniform standards and code of practices for imports. Consequently, there is no fixed permitted level of aflatoxin or pesticide residues. This wide variation in the standards adversely affects spices exports from India. Another case in point is meat exports to the EU. Although, India has been free from rinderpest since 1995, the EU has its reservations. Similarly, despite India being the largest producer of milk, exports of milk to the EU are not permitted, as Indian cows are not mechanically milked. Exports of shrimp to the EU by India were also thwarted on grounds of SPS standards. Interestingly, shrimps continued to be exported to the USA throughout the ban imposed by the EU.¹²

G Domestic Regulatory Problems

31. Sri Lankan experts argue that their own SPS regulations at the domestic level, particularly quarantine regulations may be restrictive to their large industries while protecting small agricultural industries, such as the strawberry farmers.

32. The result of the restrictive quarantine regulations has been limited transfer of essential technology to the agricultural sector. In particular, agricultural industries have had significant difficulties in accessing high yielding plant material and improved livestock breeds necessary for improved production levels. The restrictive quarantine practices have encouraged the smuggling of seeds and other materials into the country, thereby increasing the risk of the spread of pests and diseases.¹³

33. Similarly, these quarantine regulations have also indirectly constrained Sri Lanka's potential exports due to inability to access improved varieties of seeds/plants and resulting inability to meet international market requirements. This has particularly inhibited the development of Sri Lanka's ornamental flower export industry. Sri Lanka's current export volumes of certain agricultural commodities have also been indirectly affected by the difficulties associated with importing high yielding varieties to improve production levels of export crops.

34. In addition, there are some discrepancies in the enforcement of these regulations and special import permits have been issued in an ad hoc manner for prohibited materials from time to time. Unofficial bans have also been placed on certain seed imports for purposes other than plant quarantine.

¹² Paper presented by Mr. Ashok Jha at the Workshop on "A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia", January 11-13, 2001, New Delhi.

¹³ Kelengama, Saman, Paper presented on Sri Lanka at the workshop on "A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia", January 11-13, 2001, New Delhi.

H Capacity Problems in South Asia

35. There are also several infrastructure and resource related problems in South Asia, which have inhibited compliance with SPS and environmental standards. For example, even though India occupies almost 60 per cent of the global mango production, it cannot export mangoes to USA as USA demands vaporized heat treatment of mangoes, facilities for which did not exist in India until recently. Its grape exports are often rejected due to high pesticide residues. Even egg powder exports suffer because of pesticide residues, which are supposed to have travelled through maize feed. Peanut exports in 1999 are said to have suffered immensely, compared to 1998, primarily due to high degree of aflatoxin (APEDA, 1999).¹⁴ All these problems could have been eliminated with better testing equipment and facilities.

36. In the case of Nepal, adherence to SPS measures is complicated by problems of inadequacy of human resources, insufficient laboratories and inspection services, lack of expertise in risk analysis and lack of harmonization of the legislative framework. This is further compounded by a preponderance of small and scattered food enterprises, insufficient supply of quality inputs such as fertilizers and chemicals and lack of financial resources to effectively participate in Codex meetings. The ban on the use of certain dyes and chemicals by certain developed countries have adversely affected the exports of handmade products from Nepal such as woollen carpets. Carpet exports have also been hit by packaging regulations put in place by developed countries.¹⁵

37. In Bangladesh where agriculture contributes about 25.5 per cent of the GDP absorbing 65 per cent labour force, SPS measures often impinge on the exports of various agricultural products. These include green vegetables, tropical fruits and shrimps. In fact, exports of shrimps had declined from US\$ 320 million in 1996-97 to US\$ 274 in 1998-99, as a result of the imposition of high standards of safety and quality mainly in EU countries and USA. Many shipments of frozen shrimps to the USA were detained and allowed entry only after the minimum prescribed standards were met. The European Commission inspected seafood-processing plants in Bangladesh in July 1997 and banned imports of all fisheries products from Bangladesh (see section III). After a year the ban was partially lifted.¹⁶

38. In Pakistan, again economists have expressed concern about the inferior quality of some imports of foodstuffs on account of poorly imposed SPS regulations. On the other hand, the Pakistan's exports of vegetables and fruits have suffered because of the country's limited ability to enforce the SPS standards is the main constraint. Import of fruits and vegetables by European countries, North America, Japan and China had remained minimum both in the pre and post Uruguay Round period. It was anticipated that the complete integration of agriculture into the WTO would open avenues for exports, but stringent standards of human, animal and plant health safety and strict methods of inspection have been major handicaps to expanding exports.¹⁷ Financial as well as technical constraints are viewed as the most important handicaps in implementing SPS Standards.

¹⁴ Gulati, A., Paper prepared for the World Bank-UNCTAD Seminar, Ibid, 11-13 January, 2001

¹⁵ Karki, Tika., 2000, op.cit

¹⁶ See A.K.M Abu Bakar Siddique, "An Overview of Agriculture, Agricultural trade in Bangladesh in the Context of Technical barriers, SPS and Environmental Standards", Paper presented at the workshop on "A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia", January 11-13, 2001, New Delhi.

¹⁷ Qureshi, S. , Paper presented on Pakistan at the workshop on "A New WTO Round –Agriculture, SPS and the Environment-Capturing the Benefits for South Asia", January 11-13, 2001, New Delhi

39. While these problems have been faced by all South Asian countries to varying degrees an examination of the specific problems faced would be important for setting an agenda for South Asian countries. The next section therefore examines the general problems outlined in this section for specific products from specific South Asian countries.

III. IMPACT OF SPS MEASURES ON SPECIFIC PRODUCTS IN THE SOUTH ASIA REGION¹⁸

40. This chapter compares the similarities and differences in the experience of different South Asian countries in coping with SPS Standards for the same product. The purpose of this section is to test the general propositions iterated in the last chapter and to come up with a list of problems which are common to all South Asian countries. This would help in developing regional and national strategies for compliance with SPS and other environmental standards.

A Marine products

41. Stringent hygiene and sanitary requirements in developed countries, in particular provisions concerning the use of HACCP (Hazard Analysis Critical Control Point), have affected marine exports from several South Asian countries. Failure to comply with such requirements has resulted in import bans in the European Union and “automatic detention” in the United States.¹⁹ The European Union imposed bans of imports fishery products originating in Bangladesh (1997) and India (1997). These bans have subsequently been lifted. This section examines the experiences of Bangladesh and India, in particular their difficulties to comply with such requirements, compliance costs, trade effects and policies put in place to meet the requirements of international markets.

(i) *Impacts of EU standards for fishery products: the case of India*

42. In August 1997 the European Commission banned fishery products from India. The EU stated that:

- Community inspection in India has shown there are serious deficiencies with regard to infrastructure and hygiene in fishery establishments and there is not enough guarantee of the efficiency of the controls by the competent authorities.
- There is a potentially high risk for public health with regard to the production and processing of fisheries products in this country.
- Results of checks of the community border inspection ports on fishery products imported from India have indicated that these products may be contaminated by micro-organism, which may constitute a hazard to human health.
- Import of fishery products from India must therefore not be further allowed.

¹⁸ The study on marine products draws upon an exhaustive survey done by Atul Kaushik and Mohammed Saqib for UNCTAD under project IND/97/955.

¹⁹ India's marine exports attract automatic detention in the United States. Automatic detention means the product must be sampled and tested before it gains entry into the country, which means delays, storage costs and may be a substantial refusal rate. According to some estimates at present the value of detained fisheries products in US is valued at US\$ 14 million (or 15 per cent) out of total exports of US \$ 108.2 million to the country in 1996-97 (Chemomics- ACE Project1998, Ibid).

Relevance of product Standards

43. The Seafood Exporters Association of India has expressed the view that many of the standards adopted in the Order dated 21 August 1995 were either not relevant for the product quality or too stringent given the Indian fishing conditions. They claimed that the legitimate objectives of EU standards could be met through less cumbersome and less costly procedures. Some examples of the Standards applied through this Order, which are clearly beyond HACCP standards and perhaps not strictly relevant for product quality, are given below:

- Non-slip floor ... structures and fixtures must have timber holds that are large enough not to be obstructed ... Walls and ceilings that are easy to clean.
- The floor of the food handling and cold room areas shall be waterproof.
- Walls shall be free from projection ... Junctions shall be rounded off ...
- All windowsills shall be sloping inwards.
- An anteroom should be provided to the cold rooms/storage.
- Potable water shall be used for all purposes, including cleaning the ceiling

44. Producers have expressed the view that while the concept behind HACCP is laudable, the adoption of stringent EU standards in developing countries, such as India, is rather difficult. For example, potable water, the use of which is required by the EU standard, is in shortage in the Cochin area, where shrimps are farmed. The EU standard requires that even floors and ceilings be washed with potable water. It is not easy to justify the use of 100,000 litres of water every day when most people in the area do not have sufficient potable drinking water. The fish processing units often have their own treatment plants for potable water, but it nevertheless depletes ground water. Producers feel that EU norms are too strict and, in several respects, irrelevant for product safety. An example quoted by producers is the requirement to undertake 62 tests to check water standards. For some of the tests, the equipment is not available in India.

Compliance costs

45. The need to comply with the EU norms significantly increases the cost of production and entering into the EU markets, but does not result in price premiums in the EU market. Prior to EU norms, exports from South Asia were mainly in bulk form; the equipment required was plate freezers, refrigeration equipment for freezing, processing, and cold storage. But the EU requirement involves heavy investment in infrastructure and equipment, apart from higher running cost. For example, it is now necessary for each factory to have a potable water system, continuous power (standby generators), effluent treatment plants, flake ice machines, chill rooms and a laboratory. It is estimated that such upgradation involves an expenditure of about US\$ 250,000 to US \$500,000 per unit as fixed cost.

46. The Seafood Exporters Association of India claims to have spent US\$ 25 million on upgradation of their facilities to meet the regulations. Appropriate training of the personnel involved in various stages of production and processing are not included in this cost estimate.

47. Additionally banks have been unwilling to provide loans, as most plants have recorded a poor performance for the three years between 1997 and the year 2000. The high cost of credit at 18 per cent interest plus other running costs, is prohibitive for most small firms.

Impacts on industry structure

48. The total effect of EU standards is very difficult to gauge at this point of time. What appears likely is that the small firms will become suppliers to large firms, which will then export their products. Thus the market premium that the small producers were able to obtain before the EU ban would fall drastically. Large firms may break even in five to seven years, but small firms may go out of business. Some form of technical assistance either from the EU or from the government will be required to sustain small businesses. The standard also appears to favour larger establishments rather than smaller ones, not just because of economies of scale but also because of the infrastructure facilities and the space facilities required by such standards.

49. The EC approved plants are normally bigger plants with capacity to process more than 10 tons of fishery products per day. According to Indian sources, EC- approved plants in India are as good as any plant in Europe and USA and even better at times. There are [only] some 84 processing units like this in India out of a total of 404. EC approved plants have in-house peeling facility and records are kept meticulously. A microbiological laboratory is also part of the facility. There are regular checks of the incoming material as well as finished products. Microbiological tests are also carried out in external laboratories to double check the findings.

50. The second type of units are the ones that, have applied for EC approval. These are the units that were exporting to the EU before the ban came into effect but are now exporting to the United States, Japan and other countries outside the EU. These units have reasonable facilities, though not of the same standard as that of the EU. Some also have laboratories. They normally have all the provisions required by HACCP manual.

51. The third kind is typically small companies with annual turnover of around US\$ 0.5 million. These small structures do not have in-house peeling facilities; peeling is done outside. They may have laboratories, but few are functional. They have plenty of water and cleaning facilities. These companies are inferior to EC-approved units but can be used to export to other countries. This size of facility generally cannot afford to instal expensive infrastructure required by the EU.

(ii) Impacts of EU standards for fishery products: the case of Bangladesh

52. The share of shrimp in the total exports of Bangladesh averaged more than 6 per cent in the 1990s. Shrimp constitutes more than 70 per cent of the value of export of primary products. In 2000, 38.7 per cent of Bangladesh's shrimp exports were destined to the EU (38.3 per cent was exported to the United States and 11.2 per cent to Japan).

53. In July 1997 the European Commission imposed a ban on imports of shrimp products from Bangladesh on the grounds that exports of this commodity did not meet the stringent provisions of EC's HACCP regulations. The ban originated from (a) concerns as regards standards in areas related to health safeguards, quality control, infrastructure and hygiene in the processing units, and (b) lack of trust in the efficiency of the controlling measures carried out by designated authorities in Bangladesh, in this particular case, the Department of Fisheries (DoF).

Constraints

54. Problems with quality compliance arise at different stages including the pre-processing phase, the handling of raw shrimp (harvesting, sorting by size and colour, removal of heads and peeling) and the processing stage. Handling of raw shrimp is often carried out under conditions and facilities that are unsuitable in terms of hygiene. The processing stage is affected by lack of high quality water and ice, irregular electricity supply, poor infrastructure and insufficient transportation facilities. These factors seriously constrain Bangladeshi firms' ability to pursue modern sanitary practices. As is the case in other LDCs, Bangladeshi plants do not have sufficient funds to invest in expensive mechanical equipment, fishing boats, quality control measures and adequately trained staff. Thus, whilst the EU concern about quality and safety compliance by Bangladeshi plants was justified, and in principle, conformed to the SPS provisions of the WTO, the underlying causes of the country's lack of capacity to address EU concerns must also be factored into the development of the standard.

Compliance cost

55. It was estimated that the total cost of upgrading the facilities and equipment, and training the staff and workers for achieving acceptable sanitary and technical standards was about US\$ 18.0 million. The annual cost of maintaining HACCP programme was estimated to be \$2.4 million.²⁰

Trade impacts

56. The ban remained in effect for five months, between August and December 1997. A World Bank study arrived at an estimate of about US\$ 65.1 million as the cost of the EU ban for Bangladesh. Some of the plants succeeded in diverting a large part of their intended shipment to the United States and Japan. Despite such efforts, the estimated net loss was equivalent to about US\$ 14.7 million. These were evidently short-term losses. The medium to long-term losses stemming from loss of the sector's growth momentum, market diversions, erosion in price offered to exporters were, in all probability, much higher.²¹

57. Shrimp exports from Bangladesh to EU decreased from US\$128.9 million in 1997 to US\$48.2 million in 1998. While exports went up to US\$ 89.3 million in 1999 and to US\$ 124.9 million in 2000, they are yet to recover the levels and the growth rates before the ban. Thus the trade displacement effects in the dynamic sense may be larger than the immediate trade losses.

Policy responses

58. The Government of India, in an attempt to meet standards following the EU ban, issued an Order dated 21 August 1995, specifying elaborate process standards, arguing that "it is necessary to maintain the highest quality standards as per the health requirements of the importing countries that would encompass the standards like unified directive No. 91/493/EEC dated 22nd July 1991 of the European Community ...".

²⁰ EU Ban on Shrimp Imports from Bangladesh: A Case Study on Market Access Problems Faced by the LDCs: by Professor Mustafijur Rahman presented at the CUTS Seminar on SPS Standards and Trade, April 2001.

²¹ *ibid*

59. As a result of the EU ban on Indian fisheries products, and as a condition for the partial lifting of that ban, certain seafood processing plants and freezer vessels have been re-inspected and approved for exporting to the EU countries.

B Peanuts

60. This section examines the potential effects of EU aflatoxin standards, which are more stringent than international standards, on India exports. It shows that Indian producers have perceived the stringency of these standards as well as prescribed testing methods (known as the Dutch code) as difficult to justify. This raises questions with regard to the appropriate use of risk management. The Government and producers have nevertheless adopted a pro-active approach towards new market requirements. The Government enacted domestic standards and promoted research and development as well as training in the context of a UNDP project on aflatoxin management. India has managed to substantially reduce aflatoxin levels and has also developed reliable and affordable testing methods.

Arbitrariness of risk assessment methodologies

61. Certain EU aflatoxin standards which are more stringent than international standards of the Codex Alimentarius Commission (i.e. specific standard set for aflatoxin B I and the sampling procedures) have potentially adverse trade impacts on developing countries.

62. Peanut exporters have expressed the view that they have to make distress sales, as buyers do not accept supplies because of some unspecified standards in their domestic markets. They feel, therefore, that Indian exporters may have to depend upon their domestic market or, at the most, the regional market for sustenance. Their importers have informed that aflatoxin standards, which are even higher than the existing ones, are likely to apply after 31.12.2000 in their export markets. Surveys after this date have not been carried out.

63. Some of the problems relate to different testing procedures and conformity assessment standards in different markets. Each test costs US\$150.00. Further, tests are required by these foreign markets (EU) only for exports from Egypt and India and not for exports from USA and Argentina. Another problem is that while there is no import duty on 50-Kg bags, there is a duty on 5-Kg bags. This is because the foreign markets want to discourage retail consignments. They also face problems regarding genetically modified (GM) peanuts. While, some years ago, one foreign market encouraged the use of GMOs, now another market has wanted an assurance that the peanuts supplied should not use genetically modified material.

SAMPLING PROCEDURE

The proposed sampling plan is similar to the Dutch Code (3x10 Kg).

In the case of bulk raw nuts, the implementation of a regular monitoring policy presents difficulties because aflatoxin will seldom be evenly distributed throughout a given batch and only a few nuts may be contaminated. For example, the contamination rate is estimated at 1:10,000 for peanuts (peanuts).

The question is how large should the sample be in order to ensure that the test yields reliable data on the degree of aflatoxin contamination. Opinions differ on this point:

The FAO has recommended testing a single 20 kg sample for aflatoxin content from a batch of between 15 and 24 tonnes. The FAO is of the opinion that this sampling procedure would yield results that are reliable enough to eliminate the risk for the consumer and that stricter requirements would bring no significant safety measure.

The EU wants three samples of 10 kg each tested from a batch of between 15 and 24 tonnes. According to the new regulation, the whole shipment will be rejected if only one of the three samples exceeds the tolerance level. It would be far more logical to calculate an average value from all 3 samples as an end result. On the basis of the risk estimate computed by JECFA, several experts object that the new procedure would mean an unnecessary waste of good product without actually being necessarily safer. It is also certain that this practice would lead to adverse effects on prices. The EU regulation is also criticised because it fails to specify how the sampling and testing of the final products would be performed. Uniform criteria, which are binding for all EU member states, are also necessary for these products.

The impact of aflatoxin standards on peanut exports

64. A more detailed study was done on the issue of aflatoxin presence in peanuts, as this appeared to be a major threat to peanut exports.

65. The EU Commission has specified tolerance limits for aflatoxin contamination in peanuts and also testing methods. The proposed levels are 10 ppb (5ppb B1) for raw material and 4 ppb (2ppb B2) for consumer ready products. The new proposed sampling plan is similar to the Dutch Code i.e. the analysis is to be done based on a 3 test Dutch code methodology from a randomly drawn 30 KGs sample. The new procedure is much more rigorous than the one currently in force, as should any of the 3 tests be found to be over the limit, the whole lot will be rejected.

66. The implementation of the EU Commission's proposals would endanger the export of peanuts to the EU member countries as:

- Europe represents 47 per cent of world imports of peanuts and peanut products - a value of \$1.4 billion.
- Assuming all of Europe moves to a multi-test plan, the increase in cost of testing alone will be \$4 million - this does not include re-testing costs in Europe.
- The UK government reported that compliance with the proposed EU directive would average 8 per cent of turnover.

- Exporters will lose the ability to ship goods to an alternate European market. As a consequence, the overall cost of the lot would have to be priced with consideration for recovering the cost of the rejected goods, which must be diverted for crushing or sold at a significant discount for animal feed.
- Exporters may be forced to absorb the costs for additional cleaning, re-sorting, blanching, of rejected lots of peanuts - implications for increased costs of doing business in the European market could be more than \$200 million according to Joint European Commission Food Association (JECFA).

Risk Assessment Methodologies

67. From a scientific angle (as submitted by various agencies/governments), laboratory test with small animals such as touts and rats which were fed highly contaminated feed (B1) on a daily basis have concluded that aflatoxin can cause cancer of the liver. But there is as yet, no clear evidence to prove that aflatoxins are carcinogenic in humans. This should be viewed against the backdrop of the fact that should a shipment of peanuts be found to contain aflatoxin, this does not mean that all peanuts are contaminated, since aflatoxin is concentrated on very few nuts. Statistically, one would expect to find one contaminated nut in a sample of say, 5000 to 10,000 uncontaminated nuts. Experts have concluded that 75 per cent of the lots rejected under the proposed procedure would be below the established tolerance i.e. uncontaminated material.

68. Further, the world over, especially in countries like Argentina, China, India, South Africa, U.S.A., Vietnam etc. where peanut consumption is very high, there have been no findings/reports which suggest an increase in cases of liver cancer.

69. The (JECFA) report says that Aflatoxin contamination of foodstuff is very low among EU nations and only a few members of the population suffer from hepatitis B. Considering the estimated risk at 20 ppb, it will be 0.0041 cancer cases per 100,000 population annually. Considering the risk at 10ppb, it will be 0.0039 cancer cases per 100,000 populations annually. This shows that the downward adjustment of the standard from 20 ppb to 10 ppb would bring a reduction of the estimated cancer risk only by approximately 2 cancer cases annually per 1 billion people. It seems improbable that there would be any measurable risk differential between the hypothetical standards (20 and 10ppb) in populations with a low hepatitis B incidence like in the EU countries. And consider the possibility that denial of export market to farmers of a developing country like India could result in starvation deaths in multiples of the estimated harm to life in Europe.

70. The JECFA had previously recommended that maximum permissible aflatoxin levels should be fixed as low as possible. But now, on the basis of further data available, it has modified its recommendation to reducing the intake as far "as is reasonably possible". Further, it should be noted that the JECFA's risk estimates are based on data that made no allowance for the substantial reduction in aflatoxin contamination achieved by mechanical removal of the nut skins and by the use of optical and electronic methods for sorting the nuts. The risk computations are thus based on aflatoxin levels, which are no longer applicable. This new data should be taken into account when finally specifying the future EU tolerance limits. For example, the Codex Alimentarius Commission had proposed a maximum limit of 15 ppb.

TESTING PLAN COMPARISON – COST IMPLICATIONS FOR PEANUTS

| | |
|--|---|
| Current Single Testing Procedure | Proposed EU Multi-Testing Procedure |
| Average MT cost: \$800 | Average MT cost: \$800 |
| Cost of testing: \$50/lot (Lot = 20 tons) | Cost of testing: \$200/lot (Lot = 20 tons) |

Rejection: 30 per cent
(Based on experience of USA
and Argentine testing under the Dutch Code of Practice)

Final Cost US \$ 802/MT Final Cost US \$ 1157/MT

71. To sum up, given the substantial difference in the costs of sampling the following facts need to be considered with respect to risk assessment:

- Scientific data has documented that reducing aflatoxin levels for raw material (e.g. from 15 ppb total to 10 ppb total) has little or no effect on the levels of aflatoxin found in finished product.
- There is no justification for restrictive aflatoxin levels on the basis of consumer protection, given the fact that aflatoxin levels in raw materials can be substantially reduced through processing.
- Introduction of rigorous, expensive import requirements puts undue burden on suppliers, distorting trade, as it will limit the volume and number of suppliers who can routinely meet the criteria.
- Rigorous testing programmes are extremely difficult to monitor and enforce. If not applied uniformly, both suppliers and importers are at a disadvantage. In a crop year when supplies are short, there may be an effort to manipulate results or encourage alternative import schemes through markets where surveillance may not be as stringent.
- Assuming the need to increase price to take the anticipated rejections into account, European importers will be forced to consider the following options:
- Blanch peanuts prior to importation (which adds costs on to raw materials and raises issues with regard to splits and shelf-life).
- Move production to a non-EU site, where stringent testing of raw materials is not mandatory-leading to job losses in both the manufacturing sector and ancillary business.
- Lastly, none of the European countries is a producer of peanut and to bring about such stringent import restrictions on a commodity for which they have to fully depend on other origins, without giving any heed to the suppliers, other experts and JECFA/ WTO will be unhealthy and may prove to be more troublesome than serving any useful purpose.

72. All this goes to indicate that the proposed legislation will be counter-productive both to the buyer as well as the seller, apart from paving way for numerous problems and bottlenecks for no reasonable cause. In other words, the risk that non-fulfilment would entail is not commensurate with the costs incurred

Responses to the aflatoxin problem

73. To address these problems, a number of pre- and post-harvest operations known to strongly influence aflatoxin contamination have been undertaken on a very large scale in 5 villages in the Anantapur district under a UNDP project on "Food Quality in Peanuts". The project successfully demonstrated aflatoxin risk free peanut production for the first time in a high-risk area of Andhra Pradesh (India). At the end of 3 years 80 per cent of the samples (after 3 months of storage) had 0-5 ppb aflatoxin as against permissible limit of 15-20 ppb in developed countries (Australia, Canada, USA) and 20-30 ppb in developing nations namely India and China.²² However, figures on costs as well as nationwide responses to this problem are not available at this moment.

74. While addressing the aflatoxin problem, the project also assisted peanut farmers in adopting low cost technologies to capture better yields in their rainfed production system. Besides, the farmers were taught to reduce dependency on plant protection chemicals by way of growing trap crops and other Integrated Pest Management approaches to make the produce free from residues. The steps that were undertaken for reducing aflatoxin contamination consisted of the following:

- Selection of varieties, which are suitable for the environment.
- Crop rotation between legumes, cereals and vegetables.
- Soil moisture management/conservation
- Harvest at optimum physiological maturity
- Quick natural drying in small heaps with pods
- Mechanical separation of well filled pods (by removing damaged and poorly filled or unfilled pods)
- Bringing down pod moisture steadily
- Storage of pods at 7-8 per cent moisture in de-humidified conditions.

75. While this has been tried at a district level and would require both investment and better management it may be necessary to develop a programme at the national level. Research conducted under the UNDP project has highlighted the need for:

- An identification of production system which will not lead to the development of pathogens which cause aflatoxin
- Promote a new generation of confectionary grade peanut which has better seed coat resistance to bacteria which results in aflatoxin
- Promote understanding of global requirements country wise and develop a production plan accordingly
- Quote a higher premium price as paid to Argentina and the United States
- Introduce better efficient processing and packaging equipment and improve cargo handling

76. The Agricultural Produce Export Development Authority (APEDA), Ministry of Commerce, Government of India, requested UNDP to organise special training for peanut farmers of Gujarat to improve their skill for management of aflatoxin. Several farmers were

²² Basu, M.S and Radhakrishanan, Capacity Building in Peanut farms: A success Story: paper presented at the UNCTAD/World Bank workshop on 11-13 January, 2001.

trained under this special programme. The Australian Centre for International Agricultural Research (ACIAR) showed an interest on this project and published the success story in ACIAR Newsletter.²³

77. UNDP also assisted the Sub-Programme Coordinator in visiting USA and UK to interact with peanut scientists to be trained in recent advances in aflatoxin research. This, in turn, helped in strengthening the national programme.

78. Some of the problems identified by the UNDP aflatoxin management were the following:

- Stringent aflatoxin EU standards, which are like a moving goalpost, have resulted in trade displacements.
- The permissible limits are different in different countries. The standards set are hypothetical and far from reality as they are not backed by supporting scientific evidence (to save two in a billion).
- Lack of mutual recognition of inspections and standards and involvement of developing countries in standard setting process.
- No Rationality of the Sampling size and testing procedures/methods adopted. Lower the sample size, greater the risk of rejection of good lots
- Lack of financial and technical resources to implement stringent requirements is the biggest obstacle for India.

79. The suggestions for improvement of aflatoxin management included the following.

- Joint monitoring of production sites by the experts of importing countries as well as producing countries.
- Issuing aflatoxin free tags certifying the quality and conformity with SPS measures.
- Testing for aflatoxin status of the produce before shipment by the labs identified by the importing country.
- No retesting with subsequent rejection in off-loading port.
- Resorting to inexpensive but dependable and rapid tests like ELISA for detection of aflatoxin B1 and more financial support for establishing such labs and processing facilities in producing countries.

C Mango pulp

80. This section examines standards affecting Indian exports of mango pulp to the US and EU markets. Even though India is the largest Mango producer with the largest number of varieties in the world, exports from India of mangoes or mango pulp has not really been significant. India is also very competitive in terms of the costs of production of mangoes; the major handicap is SPS measures.²⁴

²³ Dr.Basu,M.S, 1999, "UNDP project successfully reduces aflatoxin in Indian peanuts", in the Australian Centre for International Agricultural Research Food Legume Programme Newsletter, February 1999.

²⁴ Primary research with questionnaires were carried out for 30 mango pulp exporting firms in the context of this project. The author is grateful for the research assistance provided by Ms.Shilpi Kapoor for this survey.

Quality-Price Problems

81. In India, exporters of mango pulp have had fixed buyers for years. Buyers of Indian mango pulp have helped to sort out quality and other potential problems in import markets, but at the same time have used quality requirements as an excuse to offer lower prices. Exporters claim that the quality issue becomes a major hurdle when buyers have excess stock or the prices of the goods have fallen in international market below the agreed/contracted price. In such cases, sometimes the exporters have to accept price discounts, especially because of the perishable nature of the goods

Cost of compliance

82. Lack of vapour heat treatment plants was a major constraint in exporting fresh mangoes to the EU and the US. Several facilities do not have the necessary infrastructure for this treatment and thus exports to the US have not increased. Indian exporters also claim that vapour heat treatment is very expensive in the case of mangoes. The cost of labelling the product could also be as high as 10 per cent of the total value added. Total testing costs could also be as high as 10-15 per cent of the total costs. The relative cost of inputs also varies according to the harvest, being low in a year of good harvest and high in the case of a bad harvest. These cost differentials, which could be as high as 50 per cent, cannot be passed on to the consumer. The processing formalities after the shipment arrives at the ports can also be long leading to demurrage and lost profit.

83. The technology costs may also be high

- The cost of an imported gas chromatograph for evaluating pesticide residues may cost as much as 50 per cent of one consignment.
- The running costs may be an additional 2 per cent per consignment.

Transparency

84. Some exporters also claim that there is a lack of clarity in the specification of SPS measures for mangoes. A major problem with respect to fruit exports relates to lack of clarity in standards. For example exports to Jordan require a certificate stating that the product (a) is not radio active (b) does not contain dioxins and (c) does not contain certain pesticide residues. However buyers are often unable to provide detailed specifications as to which pesticides have to be checked, as each pesticide may require a different testing method and may be expensive to conduct. Even documentation may cost as much as 1.5 per cent of the total value of the cargo.

D Rice

85. This sections examines standards affecting Indian exports of rice to the European Union, the United States and Japan. Pesticide residues are a major problem for exports to EU and Japan. In the case of the US market, Basmati rice faced larger problems than other categories of rice raising the suspicion that standards are being used to protect domestic producers of high-cost basmati rice. The need to comply with US standards significantly increases production costs.

Protectionist abuse

86. In the first six months of 2000, roughly 22 consignments of basmati and non-basmati consignments to the USA were rejected on the grounds that they were filthy and contained “foreign” matter. Pesticide residues are a major problem for exports to EU and Japan. Some problems relating to aflatoxins have also been reported in the case of rice.

87. The problems were higher in the case of basmati or premium grade rice rather than for non-basmati rice.²⁵ Exporters were of the opinion that USFDA standards and the relative stringency of the basmati rice standards were primarily on account of protection provided to domestic producers in the USA.

Cost of Compliance

88. To comply with the US regulations, rice has to be manually sorted, fumigants and dead weevils have to be blown out of the rice. The cost of all these processes is roughly 3 per cent of the FOB value per metric tonne of rice exports. US FDA sampling and inspection costs would be as high as 5-10 per cent of the total consignment. Some firms have reported that just removing foreign matter as well as pesticide residues would increase costs by 8-10 per cent, which would not be acceptable to US and EU markets. There is an average of three to six months delay in clearing rice consignments, which would thus incur very high interest costs. The price reduction after all this may also be about 5 per cent of the total consignment. Thus the incentive to export rice to the United States is very low.

89. Rice millers in India also lack storage, transportation and testing facilities. The cost of modern milling facilities may be prohibitive for rice millers. For example, the traditional two tonne rice mill costs Rs. 10 Lakhs or US\$20,000 whereas the modern rice mill which would address all quality problems would cost about US\$350,000. Of course the capacity of such mills would be much higher, but they are often beyond the scope of small millers who dominate the rice milling industry in India. Upgradation of ports and roads is also required. General infrastructure problems like testing for pesticides, radioactivity, and dioxins inhibit the increase in exports from India.

Transparency

90. The problems of exporting to the Middle Eastern countries are very different from those to Europe. The problems of exporting to the United States have to do with delays in clearing consignments, repeated tests, and bidding down of prices. The difficulties of exporting to the Middle East arise primarily from a lack of clarity in the specification of standards and the extensive documentation required from their embassies. The problems in Europe and Japan relate to pesticide residues, frequent changes in standards and lack of clarity on the scientific justification of the standards. Pakistan’s exporters of basmati rice have also reported similar problems. The other countries of South Asia do not export rice, but may even be net importers.

²⁵ Primary information was collected from approximately 20-25 rice-exporting firms. The author gratefully acknowledges the research assistance provided by Mr.Chandrasekhar for this survey.

Policy responses

91. At this point of time, the Indian Government has not formulated any technical assistance programme for promoting rice exports. Since trademarks for Basmati rice in US markets have now been successfully challenged, Basmati rice exports from India are expected to increase.

E Spices

92. SPS problems are very important in exporting spices to developed countries. The main problems relate to the arbitrariness of the risk assessment methodologies as well as to the high costs of compliance.

Sri Lanka

93. Spices are important commodities both in domestic and overseas markets of Sri Lanka. Cultivation and processing are labour intensive and female labour is very important. Sri Lanka and other countries have shown that labour cost is over 50 per cent of the total cost of production (62 per cent in Indian pepper, 65 per cent Indian clove, 51 per cent Indian cardamom).

94. There are no cases reported in Sri Lanka of categories of spices being banned altogether from external markets due to non-compliance with SPS requirements. However, the estimated rate of rejection due to substandard quality, and non-compliance with SPS requirements is about 30 per cent of the total exportable volume. In addition products affected with mould will also not comply with SPS requirements, as this results in aflatoxin in the product. The SPS standards for aflatoxin are 4 ppb according to Codex Alimentarius.

95. The average FOB price of Sri Lankan spices is much lower than the world market prices, e.g. it is 20 per cent for pepper, 69 per cent for nutmeg and 30 per cent for cardamom. This difference, according to exporters, is mainly due to non-compliance with stringent quality standards imposed by the importers.

Market Access Issues

96. Sri Lankan Economists have also expressed the view that quality and SPS standards may be more important than tariffs as a factor in determining market access conditions. For example, the major market for Sri Lankan cardamoms was Singapore, which has mandatory quality standards equivalent to the EU, as it is a net re-exporter of cardamoms.

97. The main markets for Sri Lankan pepper exports are developing countries. Together they absorb 80 per cent of the total black pepper exports from Sri Lanka, the remaining 20 per cent being exported to the UK and the US. USA and UK use pepper mainly for oleoresin production and thus the SPS standards are not very restrictive. However, the exporters fear that as there are several EU restrictions, UK may also consider imposing high restrictions in time to come. As a result of the high quality standards prevailing in Europe and other major markets a number of the products have been diverted to India. India now imports a large percentage of Sri Lankan black pepper amounting to about 80 per cent of total pepper exports in 2000.

98. The two main importers of clove are Saudi Arabia and India. India will provide preferential market access by reducing its import tariff by 50 per cent under an Indo Lanka Free Trade Agreement. Even though developing countries are the main markets for clove, low quality has severely affected the export volume, as other developing countries supply higher quality products. Thus even if markets are based only in developing countries the quality of the product is important.

99. Currently USA and Mexico are the main importers of Sri Lankan cinnamon. According to the exporters, cinnamon undergoes heavy re-processing to improve the quality before exports, particularly to the US market.

Problems of Compliance

100. Sri Lankan spices are faced with SPS problems such as the presence of mould, high moisture content and aflatoxin. These are primarily due to (a) poor weather conditions experienced by many producers with low cost processing technology; (b) poor storage facilities; (c) small scale nature of production units; and (d) early harvesting habits to meet family cash needs of resource poor farmers. Farm-gate quality standards assessed based on SLSI parameters are not equal to international standards. Therefore a substantial amount of products that come to the exporters are of substandard quality. This condition leads to a direct loss of potential export volume due to non-compliance of SPS requirements. The estimated average volume loss is about 5,500 mt during 1990-2000, which is 34 per cent of the total exports of spices and beverages during the same period. The corresponding total value of the products, estimated at its opportunity cost, is US \$ 2.2 million per year amounting to about 6 per cent of the foreign exchange earnings from spices and beverages. In total, the estimated value of foreign exchange loss due to non-compliance is US \$ 2.9 million every year. This is about 7 per cent of the total foreign exchange earnings from spices and beverage crops in 2000.

Costs of Compliance

101. The main reasons for poor quality of products have to do with poor storage facilities, which lead to a high percentage of mammalian and other excreta. In addition, the scale of production is very small which leads to heterogeneity in quality standards. In order to eradicate these problems completely, high investment is necessary, which is unaffordable for many small-scale growers. Costs of compliance may be prohibitive on account of many reasons:

- *Unaffordable cost of machinery:* the cost of most of the machinery and other facilities is approximately equal to or more than the annual income of the growers. A government scheme, which offered 50 per cent of the price of machinery as a grant, began in 1999. However, only large producers have managed to purchase the facilities. Drying floors, processing sheds, threshers, hand pulpers, are the popular facilities, in the order of priority;
- *Inadequate scale of production for mechanisation:* many producers operate at a small scale, which is smaller than the capacity of available machinery. To overcome this problem the government is organising group processing, but the effectiveness of such activities has only been marginal;

- *Availability of machinery:* the mechanisation system of processing of spices and beverage crops is relatively new. Most of the technology for the process was obtained mainly from India and from a few other countries. Improving the availability of these machines for all growers will take time;
- *Information gap:* Nearly 60 per cent of the exporters involved in the study²⁶ reported that the products are of an inferior quality and that they would not meet SPS requirements. Whereas a much lower percentage of village collectors, retail buyers and wholesale buyers reported that the quality of the same products moved along the channel is inferior. This observation indicates that there is a notable gap of the knowledge among different partners in the trade channel. The total cost of training the farmers according to this study is in the range of US \$ 2 million for two training programmes covering all the traders. The annual budget allocation for training of stakeholders in this sector is US \$ 24,400, which is only less than 2 per cent of the requirement). This appears exorbitant if we take account of all the other costs such as technology costs involved. Given that the total value loss due to lack of quality is US \$ 2.9 million per year as indicated above, the fixed costs in attaining these standards appears inordinately high.

Policy Responses

102. A financial assistance scheme was launched by Sri Lanka. Under this scheme 230 producers have constructed drying floors, 483 built up processing sheds, 26 have obtained various types of machinery, 9 have purchased dryers, and 26 have established oil distillation units with total assistance of US\$ 1.0 million in 1999 and 2000. While this shows the magnitude of processing investment, in comparison to the number of total producers and processors, this contribution was marginal.

India

Multiplicity of Standards

103. In the case of India, complaints have been received from Indian spice exporters about the lack of uniformity in regulations. The efforts of European Spice Association (ESA) to lay down uniform standards and code of practices in collaboration with the spice trade associations of individual European countries are yet to find wider acceptance at EC levels. Until a common European regulation and code of practice is established, traders have to follow the standards and regulations of individual countries. In this context, Italy and Germany have detained Indian spice consignments on the ground of pesticide residue.²⁷ Both

²⁶ Study conducted by Anura Herath quoted above.

²⁷ Exporters considered this to be a denial of their rights under Article 7. Article 7 of the agreement on the application of sanitary and phyto-sanitary measures deals with transparency. The members shall notify changes in their sanitary or phyto-sanitary measures and shall provide information in accordance with the provisions given in Annexure - B. These provisions insist on publication of regulations and establishments of enquiry points. Apart from ensuring prompt publications of all sanitary and phyto-sanitary regulations for the benefit of the members of WTO, the member country has to offer sufficient time to others to implement the changes suggested especially in adopting the changes to their products and methods of production.

the above countries failed to justify the changes they made to their existing regulations on microbial contaminations and contamination due to pesticide residue.²⁸

104. In Europe production, processing and sale of food (which includes spices) in each country are regulated by food laws. Though these laws vary from country to country they have two common objectives namely protection of public health and promotion of fair dealing in food commodities. Two types of food laws generally recognized are horizontal regulations that regulate food standards, use of additives, prevention of food contaminations, labelling of food in the market in general, and vertical regulations which are product wise application of regulations.

105. Apart from the Food regulations, which have the force of law, the trade has to respect ministerial orders and notifications, which are, regarded as high-level expert opinions. Some codes of practice and standards, have developed in the context of fulfilling the requirements under good manufacturing practice (GMP). The spice industry in Europe thrives mainly on trade in ground spices, which are mainly used as food ingredients, and hence the horizontal regulations concerning food processing and sale have direct relevance to spices. Though vertical regulations are not currently in place for spices., codes of practices and standards are in existence.

106. In addition, the permitted levels of aflatoxin are a major problem faced by the Indian chilli (red paprika) export to Europe. Different European countries follow different standards. The standards are very high. For example, it should be less than 4 ppb in Germany whereas it is <5ppb in Sweden & Finland and 10 ppb in Spain. This type of variability in standards among countries within Europe has caused great difficulty for exports from India. Similar is the case with standards on pesticide residues followed by different European countries. Maximum pesticide residue limits in Germany, Netherlands and United Kingdom are very different. The microbiological standards fixed are also very high which in most cases may not be feasible to achieve even in Europe. These measures entail higher costs of analysis, investment in processing units and upgrading competence of technicians, which is beyond the capacity of most spice growers, who are small farmers.

Response Strategies

107. In the case of spices, Spices Board conducts various quality awareness meetings and seminars. Open house meetings, task force meetings and training programmes are some of the means through which the information is passed on to the exporters, processors, manufacturers, traders and farmers. Regular post harvest training programmes are conducted benefiting farmers, traders, processors, and workers in manufacturing units, exporters, NGOs and extension officials. On an average 40 to 45 thousand persons are trained under this programme.

Sources of information

108. Importing firms or retailers in importing countries can have information on the capabilities of India through direct visits, brochures, publications, internet & Websites, buyer seller meets, international seminars and meetings and international food fairs. Whenever they

²⁸ Kittu, C., Deputy Director, Spices Board, "Issues on SPS and Environmental Standards for India" paper presented at the UNCTAD/World Bank Conference on 11-13 January 2001

find difficulty in getting information, they can approach Commodity Boards or export promotion councils, Exporters' association or chambers of commerce. Commercial attaches of Indian diplomatic missions also offer similar services.

Costs of Compliance

109. The compliance cost is very high. The investment on infrastructure improvement is prohibitive since equipments like high performance liquid chromatography costs Rs.12 - 20 lakhs or US\$30-50,000, whereas the income of a small farmer is approximately US\$750 to US\$2000 per year. Similar is the case of operational costs like chemicals, standards and skilled technicians. A rough estimate to set up a moderate lab for testing and analysing samples comes to US\$100,000, which is beyond the scope of small farmers and even beyond the scope of government budgets. There is a wide technological gap between domestic units and units in developed countries. The difficulty in accessing technology from abroad and its prohibitive cost are other reasons for poor adoption of new technologies by Indian Food Industry. A sterilization unit of moderate capacity in spice sector would cost around 1 million US\$. Similar is the case with technologies on supercritical CO₂ extraction, cryogenic powdering, freeze drying etc, which are needed to produce quality spices.

110. There is largely an insufficient supply of environmentally - friendly inputs, particularly for chemicals prescribed for environmental reasons. Ethylene Oxide (ETO) is widely used in US as a sterilizing agent, though not in Europe & Japan. Pressure groups are working to ban this product, since it is not environment friendly. But cost effective substitutes have not been found. Steam sterilization and irradiation are some other options but are very expensive. In addition, irradiated products are not accepted universally. There is also an attempt to replace hazardous chemicals like Hexane used as solvent in spice extraction units, with environment friendly materials like carbon dioxide, but couldn't gain ground because of their prohibitive cost.

111. Imported inputs required for processing and analytical work are exorbitant in developing countries. The imported inputs used in chromatography are many times costlier than equivalent local products.

112. The investment on quality improvement has a longer pay back period for small sized enterprises. There is also a shortage of funds and technical personnel to manage the unit with modern gadgets. Only a few small-scale enterprises can adapt to quality requirements.

F Tropical beverages

113. This section explains how large sellers may be able to develop better coping strategies than small exporters

Indian Tea

114. In recent years, there have been growing reports of pesticide residues in Indian tea affecting its market access. For example, Germany complained about high residue levels of ethion in Darjeeling teas. Complaints were also received about high levels of bicofol in Assam, Terai and Booras teas. In addition, the Government has banned the application of DDT, BHC, aldrin, aldrex, endrine, heptachlor, chlordane and tetradifon. Moreover, there are

Government guidelines, which states that if chemicals such as thiomethon, dimethoate, monocrotopos, fenicyphermethrin, fenvalerate, phorat, phosphomodon, formothian, acephate and carboxin are applied during the plucking season, the plucking that immediately follows these sprays, should be discarded.

Risk Assessment

115. Doubts have been raised some time back about the justification of some of the objections about pesticide residue in the European market. In 1995, the German limit of 0.01 mg of tetradifon and 2 mg of ethion per Kg of tea were somewhat arbitrarily imposed because of lack of data from India on its pesticide safety limits for tea. Later, the Teekanne Darjeeling Gold brand of tea was rejected because it contained 0.24 mg of tetradifon per Kg, which was 24 times the limit set by Germany. The rejection was soon followed by a report by the German Institute of Environment Analytics, Messzelle, denouncing the brand as unsafe. On the other hand there were no rejections from UK, another of the European markets. This led some to believe that the German ban was protectionist, or the fact that there were no bans in UK because most of the Indian tea firms follow British principles of production.

Response Strategies in India

116. The tea estates are largely well managed and employ sufficiently educated people to take care of government guidelines. The production process is also sufficiently well oiled to ensure the meeting of these standards. However, there is a problem regarding testing and conformity assessment for these standards. There is only one institute, the Pesticide Residue Laboratory, which can test commercial samples of tea in India. Another problem is the cost factor. It is reported that the test required for clearing a consignment for Germany costs roughly US\$ 234 per analysis. This is unaffordable at least for the bulk tea exporters who get a much lower price than specialised tea producers.

117. Tea Research Association now monitors pesticide residues. Exporters apply ISO 3720 standard. The Indian standards are even more stringent than ISO and all other countries' domestic standards with the exception of Japan. The best tea is supplied to UK and Japan, while lower quality goes to countries like Russia, Poland, and Iran etc. The stricter EC standards apply to exports to UK, while for Japan it is enough to get EIC inspection done.

G Conclusions

118. Meeting SPS standards demands acquisition of technology, heavy investment, training of personnel, and better management from the level of procurement of raw materials to packaging and selling. Few processing/manufacturing units are following good manufacturing practices (GMP) and a few are accredited to ISO 9000 & 14000 series.

119. The infrastructure for testing and certification available in South Asia is also insufficient to meet its needs. Apart from laboratories of Directorate of Marketing & Inspection, Export Inspection Agency, Commodity Boards/Export Promotion Councils, there are only a few laboratories in the private sector which would be able to undertake analytical work. Some manufacturing/processing units have developed their own in-house laboratories for quality evaluation. Certification cost, especially inspection and testing is beyond the reach of small and medium enterprises. Most exporters have also complained that standards may

be frequently protectionist or used to bid down prices. A lower price realisation has also been reported by almost all producers primarily due to poor standards. Risk Assessment Strategies have been found to be of questionable value, and frequently not applicable to conditions of production in South Asian Countries. Capacity problems, especially the lack of technology and finance have been found to be important bottlenecks.

120. Lack of clarity and transparency in the implementation of standards has also been found to be a major problem. What is most distressing to producers is that compliance with SPS Standards does not ensure better price realisation. In fact, as the markets are commodity markets, they are driven by supply and demand factors rather than quality. Thus meeting SPS and Environmental requirement is a minimum condition for market access, but not a sufficient condition to get higher prices.

IV. DOMESTIC STANDARD SETTING IN SOUTH ASIAN COUNTRIES

121. One of the views that is emerging strongly in the “Standards and Trade” debate is that SPS and other Standards must be implemented at the domestic level for domestically produced and sold goods, rather than just for exports in developing countries. This is because realising economies of scale as well as maintaining higher standards would require a holistic rather than a narrowly focussed export oriented approach. This chapter thus examines the domestic standard settling processes and institution in South Asian Countries which could assist in upgrading domestic standards.

A Bangladesh

122. In Bangladesh, at present the ministry of Agriculture, ministry of Livestock and Fisheries, Ministry of Health and Family Planning look after the sanitary and Phytosanitary measures of the country. The Director, Plant Protection Wing of Ministry of Agriculture is responsible for execution and implementation of the existing national or international Plant Quarantine Legislation and Agreement. Aquatic animal health or health of livestock is looked after by the Directorate of Livestock, which arranges inspection of imported animal, poultry bird, fish fries, look for signs and symptoms of diseases and pests and puts them under quarantine procedures.

123. In Bangladesh, import and export of agricultural commodities are regulated by the `Destructive Insects and Pests Rules, 1966 (Plant Quarantine) amended in July 1989.²⁹ This is based on the FAO guidelines on sound plant quarantine principles and procedures for trade. The Plant protection wing of Department of Agricultural Extension (DAE) under the Ministry of Agriculture is responsible for implementing this guideline. At the national level, a Director General who is assisted by `Director` from each of the wings namely Plant Protection, Field Service, Food Crops, Cash Crops and Training heads the DAE. Besides these wings, Personnel and Administration (P&A) and Planning and Evaluation (P&E) are the two separate wings directly linked with Director General, DAE.

124. There are five sections in the Plant Protection wing viz., Plant Quarantine Section, Pesticide Administration and Quality Control, Operation (Aerial and ground), Surveillance and Forecasting and Integrated Pest Management. Plant Quarantine section is headed by a Deputy Director, who is assisted by Senior Quarantine Pathologist, Quarantine Entomologist, Plant Pathologist, Plant Quarantine Inspector and Inspector and the Junior Technical and supporting staff.

125. At present in Bangladesh, sixteen Plant Quarantine stations are functioning in different entry points to the country. Some of these Quarantine stations are moderately equipped with Plant Quarantine facilities. Bangladesh and India signed a bilateral MOU in 1978. According to the bilateral MOU about 15 (Fifteen) land border check-posts were

²⁹ Hussein, Shahadad and ...Paper presented in the workshop: A New WTO Round – Agriculture, SPS and Environment Capturing the Benefits for South Asia, Sponsored by UNCTAD and World Bank in partnership with the SAARC Secretariat, 11-13 January 2001, New Delhi, India. The authors are Member-Director and Principal Scientific Officer of Agricultural Economics & Rural Sociology Division, Bangladesh Agricultural Research Council, New Airport Road, Farmgate, Dhaka-1215, Bangladesh.

surveyed to study the feasibility of opening new Plant Quarantine Stations. Bangladesh established nine-land border check-posts, 3 airports, 2 seaports and one river port for plant quarantine. New quarantine stations are to be established by both India and Bangladesh at the borders.³⁰

126. Environment Policy, 1992 encompass different sectors such as (a) agriculture, (b) industry, (c) health and sanitation, (d) energy and fuel, (e) water development, flood control and irrigation, (f) land, (g) forest, wildlife and biodiversity, (h) fisheries and livestock, (i) food, (j) coastal and marine environment, (k) transport and communication (l) housing and urbanization, (m) population, (n) education and public awareness, and (o) science, technology and research.

127. The government has also undertaken a wide range of initiatives such as enacting the environment bill in 1995, and has prepared the Bio-safety Guidelines for Bangladesh by the Ministry of Science and Technology in 1999. The objectives of the bio-safety guidelines is to ensure safe transfer, handling and use of living modified organisms, specially focussing on safe guarding human and animal health, the environment, biological diversity and socio-economic welfare of societies, including transboundary movement of any of these organisms.

128. For example, the present plant inspection and quarantine rules of Bangladesh are out of date and should be totally renewed in order to fulfil the needs of the country and to comply with the FAO convention and the application of Sanitary and Phytosanitary measures (WTO SPS agreement). A list of important plant disorders present in Bangladesh will not only be considerable value to the country itself but also for importers. At present there is no coordination between plant quarantine inspection and quarantine service in Bangladesh and the corresponding ones in the neighbouring countries. Generally, it can be concluded that there is great demand for more information at all levels about the work and importance of plant health inspection and quarantine

B India

129. There is no comprehensive body for setting SPS standards in India. The existing Standards which correspond to SPS standards operate under then following: (1) Prevention of Food Adulteration (PFA) Act 1954 (2) AGMARK standard which is a voluntary grading system operated by the Directorate of Marketing Inspection under Ministry of Agriculture (3) Bureau of Indian Standards and (4) Export Inspection & Quality Control act among others. The Govt. of India has set up a National Codex Committee under the Department of Health, Ministry of Health and Family Welfare which has identified six major areas namely Fish and Marine Products, Meat & Meat Products, Fruits & Vegetables, Spices & Condiments, Milk Products and Cereal, Nuts & Oil Seeds. Base papers on these subjects were prepared by agencies like Spices Board, agriculture promotion and export development authority (APEDA), Directorate of Vanaspathy, Vegetable Oils & Fats, Central Food Trade Research Institute and other such bodies. The observations emanating from these base papers have initiated multi-farious actions like institutionalised training in areas of HACCP, GMP (Fisheries, Fruits & Vegetables); revision of PFA standards based on grade specifications for export (Spices & Condiments) including parameters for microbial limits; maximum tolerance limit/MRLs for pesticide residue and aflatoxin; physical characteristics and cleanliness;

³⁰ Md. Muslehuddin Faruque, Sanitary and Phytosanitary Specialist, BGD/98/008 FAO of UN who prepared the "Report of the Agreement on Sanitary and Phytosanitary Measures".

allocation of food identifier codes (spices); strengthening of analytical laboratories in all food sectors; improving existing laboratories to reach BIS levels; harmonization of maximum tolerance limits for different pesticides for different food groups/foods under PFA and Codex; multi centric study on use of edible colours in food products (CFTRI and NIN). Shadow Committee on general principles, Steering Committee for setting up standards for organic foods etc. have also started work.

130. In all major agricultural crops, especially in chemical and microbiological areas, these standards are comparable with International Standards. The standards followed by certain sectors like spices/marine are compatible with international standards. Now Government of India is attempting to develop national standards encompassing all areas of operation. But the pace of its formulation and implementation is necessarily slow because coordination between various ministries becomes difficult at times.

131. Though there are a number of laws on food standards, enforcement remains a critical problem. The departments responsible to enforce it often do not have adequate resources, testing facilities or trained personnel. The penalty provisions also do not have the desired deterrent effect.

C Nepal

132. Nepal has implemented the Agriculture Perspective Plan (APP) for the overall development of the country. The history of food control in Nepal began with the implementation of the Food Act of 1966, which was implemented through Food Regulations in 1979 by the Department of Food Technology and Quality Control (DFTQC) under the Ministry of Agriculture. Five regional laboratories are assigned the responsibility of conducting inspections and Laboratory Investigations.

133. The Food Standardisation Board has so far formulated 84 mandatory food standards for milk and milk products, edible oils and fats, fruits and vegetables, spices and condiments, grains and legumes, cereal products, bakery and confectionary, sweetening agents and some other products. These standards have been formulated under the Food Act.

134. Inadequacies of inspection, laboratory, and enforcement unit limit the application of national standards. The strengthening of the “National Food Control Agency” is seen as an important step in enhancing Nepal’s capability in food trade as well as to implement WTO’s SPS and TBT requirements in the country.

D Pakistan

135. Pakistan has a number of regulations and standards to prevent food adulteration and to ensure hygiene and quality standards. These are used both at the domestic production and import level. The WTO Secretariat's Report on the Trade Policy Review of Pakistan conducted in 1995 had observed that the country has made some efforts to base its standards on international norms. It was further remarked that national standards on a small number of items are inferior to international norms due to the domestic non availability of the required technology and Pakistan standards do not seem to constitute major impediment to trade. In some cases controls on imports have been made more lenient. For example in its trade policy for the year, 1995-96 the prescribed shelf life of imported edible oil products was reduced

from 75 percent to 50 percent at the time of import. It has been observed that the exporting countries have often taken an undue advantage of the poor local and physical infrastructure of Pakistan to enforce SPS standards.³¹

136. Under the Agricultural Produce (Grading and Marketing) Act of 1937 different rules have been formulated to check and control the quality of agricultural commodities for export of wool, animal hair, lamb skins of grades I to V, casings, eggs, dry fish and shell fish, fish meal, bones, either crushed or in powdered form, citrus fruits, lime and lemon, chillies, turmeric, ginger, garlic and onion, potatoes, radish, brinjal, peas, asparagus, Brussels sprouts, pumpkin, cauliflower, tomato, cucumber (kheera), cucumber (Kakri), carrot, fresh beans, artichokes, celery, turnip, green chilies, lady finger, guava, molasses, dates, banana, mangoes, oilseeds, oil cakes, including solvent extracted meals. However, quality control restrictions on export of fruit and vegetables are not applicable on exports to border countries.

137. In 1998 99, the Government of Pakistan devised a system for inspection of all rice shipments by Export Promotion Bureau (EPB) in consultation with Rice Exporters Association of Pakistan to ensure quality exports. A similar system is used to export rice to the European Union since 1999.

E Sri Lanka

138. The Sri Lanka Standards Institution (SLSI) is the national body responsible for setting and monitoring food standards and it is also a national inquiry point for the implementation of the SPS Agreement. In this capacity SLSI is responsible for the dissemination of information to exporters, regarding changes to trade partners' product standards in various industries.

139. In the case of food items, SLSI adheres to international health and safety standards and guidelines, such as Codex standards, as strictly as possible. Sri Lanka is a member of the Codex Alimentarius Commission, which has set 237 food commodity standards, 41 hygienic practice codes, and over 3200 maximum residue limits for pesticides. The control of pesticide is done by the Department of Agriculture under the Authority of Registrar of Pesticides. The Ministry of health through the Food Act No.26, 1980 exercises general control of health aspects of the food industry. Testing and inspection procedures are also harmonized with international procedures.

140. The SLSI has three categories of certification, voluntary adoption schemes, voluntary SLS certification and mandatory certification. Certain food items such as canned fish, fruit cordials, drinks and condensed milk come under compulsory certification schemes. Other products will also be brought under this scheme in 20001. SLSI has also certified around 10 auditors for HACCP. Food Manufacturing Organisations intending to get ISO 9,000 need to comply with the Food Hygiene requirements. There is a proposal to bring imported products under SLS certification schemes.

141. In addition, SLSI has recently proposed the initiation of an independent National Accreditation Body, which will assist facilitating the smooth flow of exports. It will specifically be an umbrella organisation governing a National Standards Body, a National

³¹ Sarfaraj Khan Qureshi, Paper presented at the UNCTAD/World Bank Conference, Jan 11-13. 2001.

Measurement Laboratory, other testing laboratories as well as Conformity Assessment Bodies.

142. The Plant Protection Act has recently been revised and is due to be gazetted shortly, in line with some of the SPS requirements. The biggest constraint facing the government in amending the plant quarantine regulations is the inability to provide the necessary and complementary testing facilities, due to resource constraints.

143. There is no government-managed system in Sri Lanka to provide compulsory quality certification for spice and beverage crops (tea is a special case where the Tea Board provides compulsory quality certification). The pre-shipment quality testing process is optional for the exporter. However, the exporter makes arrangements with their international importers on a private basis to provide the information on the quality of the products being traded. The required facilities for quality testing are available at the Sri Lanka Standard Institution (SLSI) and a few other laboratories of private organisations. The government does not subsidise the cost of quality certification process.³²

144. A national enquiry point (NEP) to obtain quality parameters for spices and beverages has not been formally established for Sri Lanka. SLSI functions as a focal point for the information, but the online linkages of SLSI and international standard setting organisations are very poor. The Director, Department of Animal Health and Production have been appointed as a NEP for animal products. The most appropriate government institution for this purpose, in the case of spices and two beverages, is the Department of Export Agriculture (DEA), which has linkages with growers, traders and exporters. Infrastructure facilities, human capacity development, and increased and systematic interactions with all stakeholders of the industry are required at a sustainable cost for the purpose.

F Conclusion

145. In most South Asian countries the legal framework for developing and monitoring SPS and environmental standards has already been set up. However, implementation and monitoring remains a challenge, largely on account of lack of technical, financial and monitoring capacities. The shortage of equipment and laboratories also remains a critical problem.

³² Ginige, S.L, 2001, Implementation of Food Sanitary Standards in Sri Lanka, paper presented at the UNCTAD/World Bank workshop, 11-13 January 2001.

V. WAYS FORWARD

146. To address the constraints described in the earlier chapters, a number of policy initiatives can be formulated and implemented. To recapitulate the main challenges that have emerged at the national and regional level deal with capacity constraints. At the multilateral level, several questions have been raised about standard setting processes and trade rules. This chapter therefore first examines policy responses to capacity problems at the national and regional level and the initiatives required to deal with standards setting processes at the multilateral level.

A At the national level

147. At the national level a lot of effort has already gone into building infrastructure, and dissemination of information to improve the safety of specific sectors food in all South Asian countries. However, national awareness is yet to be developed in all walks of life on the necessity of food safety. Export development organisations have already started working towards developing standards for quality of foods because of its necessity in the area of trade promotion in the export market.

(i) *Awareness raising*

- An awareness programme with nationwide implementation on food safety has to be conducted covering all sectors of food and food related industries;
- Increase growers' awareness in lowering cost of production and increasing quality;
- Along with the increased awareness of SPS aspects, programmes should be developed to improve the capability to detect and eliminate contaminants, to process products to acceptable standards, and proper packaging etc.;
- Governments should take necessary steps to make use of the provisions under Article 9, where Technical Assistance under SPS measures are available, and expedite the process of securing assistance;
- State Assistance should be provided to central collection and processing points to maintain the homogeneity of quality. Government should establish National Enquiry Points facilitating the flow of timely and reliable information on SPS; and
- A regular line of communication should be established between South Asia and major importing countries on transfer of data created for registering new insecticide.

Training

- A national training programme benefiting the technical personnel working in different laboratories, both private and government sectors needs to be established, mainly to educate them on various analytical methods and use of

new equipments. This is possible with the establishment of National Training Centre.

- R&D for better use of solar energy for drying of agricultural products, since the level of moisture is high and is the main cause of microbial contamination, which was identified earlier as the main problem in South Asia (Chapter II and III).

(ii) *National and regional standard setting*

National

- Formulation of a comprehensive food safety rule for the country with the merger and improvement of various rules prevailing namely, PFA & EIA with deterrent penalty provisions for violation. This should cover all food and food related activities;
- National standards must be developed based on the recommendation of the National Codex Committee (MRLs) and Estimated Maximum Residue Level (EMRLs) may be fixed at national level;
- Provisions may be given in the rule for periodic revision of standards based on the changes in business environment, and overall concerns on food safety;
- The work of the 'Registration Committee' established for registering pesticides etc should be streamlined.(eg. Quinalphose detected on Indian Chilli in US is not registered in India.) The system of giving adhoc registration should be discontinued. The manufacturing company of pesticides, insecticides, food additives etc should submit required data on their products as stipulated in the Insecticide Act 1968, for example for India;
- Action should be initiated at the National level for implementation of HACCP;
- Policies and guidelines may be formulated for implementation of IPM/IDM technology in various crops.

Regional cooperation

148. This has to be explored to identify new avenues of trade and to get better transfer of technology and technical assistance. Regional co-operation is essential because food habits, culture and climatic factors are almost akin among contiguous countries. Many pesticides used in tropical countries may not be required in a temperate situation. The bio-degradability of the pesticides is different in the above two situations and therefore the level of toxicity will also vary. The intensity of the problem of various contaminants in food may be lesser at regional level compared to a global situation. The possibility of regional co-operation with respect to SPS measures should be explored in the context of SAARC and BIMSTEC. This will also give better opportunity for joint exploration of indigenous technologies/traditional technologies on food safety available among member countries. Regional co-operation offers better understanding to the problems of food safety and need not always be based on complete science but can rely on traditional methods.

(iii) *Technology, innovation and enterprise development*

149. Innovation can be in the form of new methods for processing and packaging with greater emphasis given to environmental friendly inputs. The very use of new products or processes can cut cost and make the product more price competitive in the market. For example the reported use of cinnamon for control of E.coli

- Liberalised import should be allowed for machinery and technology for maintaining higher levels of food hygiene. (eg. Sterilizing equipments, extraction and dehydration unit);
- Regular improvement of packaging and introduction of cost effective packaging systems and machinery;
- Wider application of irradiation and other sterilizing mechanisms including safe chemical sterilisers and fumigants.

(iv) *Small and medium enterprises*

150. SMEs are not in a position to implement comprehensive SPS measures like getting their units accredited under ISO 9000 series or HACCP. Economies of scale may not often work in the case of SMEs as in bigger units where additional investments on SPS can get absorbed quickly. Control during various stages of procurement of raw materials, its storage, processing, packaging, inventory management of finished products, distribution, export or domestic sale among the SMEs can not be properly streamlined. This demands specific measures for SMEs, which include technological support, support for investment in improving infrastructure, support for accreditation under ISO 9000/HACCP, as well as umbrella certification schemes.

(v) *Branding and umbrella certification*

151. These are two methods for identifying the units, which are following good SPS measures. Spices Board in India has introduced a three-tier system in grouping the processing/manufacturing units of spices. Those units, which implement good manufacturing practices as per the stipulations given by the Board, are awarded the Spice House Certificate. They can use this certificate for promoting their bulk exports. The buyers can be sure of the quality of products and therefore requires no additional expenditure for further testing. Similar is the award of Indian Spices Logo which ensures a higher level of quality for the product. The parameters for maintaining the hygiene in the unit are fixed by the Board and are under periodic scrutiny. The Board in the buying countries promotes the Logo so that exporters can take advantage of the same by stamping the logo in the consumer packs they sell abroad. A third group of processor/manufacture units are getting accreditation under ISO9000/HACCP series of certification. These are large enterprises that can afford the certification cost. This type of branding of production units ensure that a high level of quality is maintained by each of these group of producers.

152. It is also possible to explore the feasibility of umbrella certification to units, which are engaged in the production of same products and maintain a same level of food safety standards. This will reduce the cost and maintenance of certification, since it involves periodic inspection of standards or procedures adopted by the firms.

153. Branding and Umbrella certification are the most suitable system for South Asian countries for recognition of units for their specific level of achievement and grouping them for the purpose of efficient management. These are helpful in enhancing food safety both in domestic and export markets.

(vi) Institutional changes

154. Responding to environment- and health-related requirements, including SPS measures, requires institutional changes, such as:

- Strict enforcement of national food safety rules to be implemented by the State Governments with the support of a Central Act;
- A national agency to coordinate the studies on pesticide residue monitoring may be set up to co-ordinate the work of specific commodity boards and research institutes;
- A national pesticide residue laboratory needs to be established. A national and regional level programme coordination and networking is also required;
- Strengthen Regional laboratories to carry out analysis of products for contaminants like pesticide residues, aflatoxins and microbial contamination;
- Establish fully equipped laboratories at the production centres so that food safety can be entrusted from the point of production. Foreign Direct Investments can be permitted in this area;
- Regular attendance of Codex Committee meeting by experts drawn from different areas of work;
- Ministry of Agriculture should develop information on good Agricultural Practice (GAP) for submission to Codex and for implementation of HACCP at farm level; and
- Programmes may be formulated and implemented for the wider use of IPM/IDM technologies especially in crops where excessive usage of pesticides and chemicals has been prohibited.

B Multilateral level

(i) More transparent and participatory preparation of standards

155. A participatory approach in preparation of standards would be beneficial to both importers and exporters. Forums like Codex Alimentarius Commission, International Office of the Epizootics and Secretariat of the International Plant Protection Convention are engaged in the preparation of universal standards, sampling and analytical methods, levels of permitted contamination etc.

156. These standards developed by the international agencies are comparatively stricter than many of the standards followed by the individual importing countries. This demands for international harmonization and use of the standards, guidelines and recommendations. Though provisions are given under Article 12 of Agreement on SPS measures, it requires more interaction between member countries. Developing and least developed countries neither attend meeting regularly, nor can they send experts from the respective fields on a regular basis. This has resulted in a situation where the actual concerns of developing and least developed countries are not properly reflected while making decisions, which adversely

affects their export prospects. This has resulted in standards being fixed by the importers with little involvement of the producers, and is beyond the achievable limits of developing countries.

157. At the individual government's level also no active discussion has been initiated on this issue in many of the developing or least developed countries. National standards are absent in many of these countries and even proper authorities with mandatory support are non-existent. This is the major reason for the poor participation and follow up from developing countries. The government and industry should work hand in hand to develop, implement and enforce the standards, guidelines or recommendations relating to sanitary and phyto sanitary measures since this has had a major impact on trade under WTO regime.

158. Specific recommendations in this area include:

- Ensure that all members are up-to date in the fulfilment of notifications;
- All comments on standards should be taken into account in the process of their formulation. Members should specifically respond to countries, which have raised objection to the standards;
- Develop a database of SPS rules and regulations with major trade impacts;
- Detailed methodology and risk assessment and factors taken into account in determining standards should also be notified;
- Members requests for additional information should be responded to promptly and not after the expiry of the time period for making comments. This needs to be discussed through the reviews of the agreement;
- Annex B that requires that the proposed regulations be discussed bilaterally upon request should be honoured; and
- The legislative requirements of the importing countries should also be notified if it affects particular products and particular trading partners.

(ii) Trade rules

159. For the effective implementation of the agreement on SPS measures, it is necessary to incorporate it in trade rules. The trade off between voluntary and compulsory implementation of SPS measures lies in the level of market access. Though it is the sovereign right of the importing countries to design and implement SPS measures to protect the health of its citizens, animals and plants; often these measures may be adapted to the business interests of a few. A SPS restriction which is not actually required for health reasons can be a very effective protectionist device, and because of its technical complexity, a particularly deceptive and difficult barrier to challenge. In times of scarcity many importers do not insist on compliance with quality regulations or there is a certain laxity in the enforcement of food safety.

160. The issue of risk assessment under SPS agreement is also necessary to evaluate. In the case of aflatoxin exposure the levels may be unjustifiably low given the potential risk and may lead to serious trade disruptions in a number of products. The provisions for multiple sampling and analysis will increase handling costs with no appreciable reduction of aflatoxin contamination. In addition these measures have been notified even as Codex is debating about them and the maximum permissible levels which the EU proposes to implement are much more stringent than the standards being debated at Codex. These may be violative of

Articles 3.1, 5.4 and 5.6 of the SPS agreement and should thus be widely debated before implementation.

161. In addition as far as articles 3.1 and 12.4 are concerned there is a need to better define:

- International standards. These should be developed through a fair process based on consensus and the participation of countries from different geographical regions as well as different stages of development. The SPS Committee should be encouraged to develop a set of rules that the relevant international body should adhere to in keeping with Article 3 of the Agreement.
- If the participation of developing countries is inadequate, the Codex Committee should conduct a clinical study in developing countries before establishing standards especially with respect to contaminants, pesticides, animal diseases etc. Also SPS committee must evaluate what steps have been taken to ensure effective participation of developing country members.
- ISO and CODEX follow different standards formulation processes and the SPS committee should study this. Steps should be taken that in both standards should take account of the prevailing level of technological and socio-economic development and trade;
- Increasingly there is no consensus in the Codex committees and a majority vote process is being followed which may lead to skewed standards being adopted, given that the participation of developing countries is minimal. Only consensus based decisions should be adopted; and
- Increasing politicisation of standards and effect of lobbies. Efforts should be made to minimize this

162. Special and Differential provisions under Article 10 should be implemented by making them more specific and mandatory obligations. SPS measures are a moving target to which developing countries have to continuously upgrade technologies and investments- a feat that is difficult for them. An examination of the steps taken by developed country members in providing technical assistance is called for. Studies in identifying the market access barriers arising from such measures should also be fed into technical assistance mechanisms.

163. The provisions on Article 9 should be translated into specific and implementable guidelines. Measures for transferring technology on preferential and non-commercial terms should be explored for preparing and adopting standards. On the job training should be provided to representatives from the South Asian region for imbibing the necessary technologies to meet standards.

164. In order to minimize SPS measures being used as non-tariff barriers, developing countries need to take a number of steps. These include the establishment of infrastructure in terms of testing & certification facilities, capacity building to enable exporters to meet the requisite standards, raising awareness and access to information. The provisions of Art. 9 of the SPS Agreement i.e. technical assistance for developing countries need to be codified for utilization by developing countries. Technical assistance must be extended on the science of measures, and not merely to educate developing countries on the measures. Article 9 should therefore make explicit reference to the upgrading of personnel and equipment of laboratories, accreditation of certification bodies in developing countries, and to

strengthening the ability of developing countries to deal with scientific issues, especially those related to the risks associated with SPS measures, and for the recognition of diseases and pests. The connection between credits, donations and grants and the ability of developing countries to establish necessary infrastructural facilities should be made.

(iii) Equivalence

165. Article 4 of the agreement on SPS measures has granted equivalence between members with regard to their SPS measures, provided the exporting member objectively demonstrate to the importing member with the measures and conditions, which satisfies the importing members' appropriate level of sanitary and phyto-sanitary protection. This demands for a reasonable access to be given to importing member for inspection, testing and other relevant procedures. In the case of India, this is possible with respect to regional countries, which have similar standards, and more often governed by near similar food safety rules. In domestic market, effective implementation of comparable standards is possible only through proper enforcement. The authority vested with the powers should compare the standards with a scientific perspective for declaring equivalence. Bilateral and regional co-operation is also possible by declaring equivalence in standards, which can promote trade in the long run.

166. Article 4.1 should clearly spell out equivalency. In this context, the setting up of internationally financed regional and sub-regional laboratories and certification bodies and accreditation institutions set up in developing countries should be included in this Article. These institutions would function under the supervision of Codex, the OIE, and the IPCC.

167. Similarly, Art 10 of the Agreement, which accords Special & Differential treatment to developing countries, needs to be empowered if the purpose of the article is to be achieved. If these steps are not taken and developing countries continue to be "standards takers" rather than "standards - setters" there will be an increased risk of losing markets on account of SPS measures taken by developed countries.

168. For LDCs, such as Bangladesh and Nepal, special measures were recommended. Firstly, the SPS provisions should be formulated in a transparent and accountable manner where LDCs also have equal opportunities to participate in a fair standard setting process; e.g. although EC was sending signals for sometime before the ban was actually imposed, there was considerable lack of awareness about the HACCP regulations both at GOB, as well as plant, levels. Secondly, if standards are to be harmonised, these should take into consideration regional conditions; interestingly, at the time of the EU ban, exporters were able to divert a part of the consignments to USA and Japan, markets that are not particularly known for any lack of vigilance in terms of quality and hygiene standards. Thirdly, full implementation of SPS measures should be sensitive to trade disruptive and trade restrictive nature of such measures for exports from the LDCs; adequate preparatory measures must be ensured in the exporting countries prior to imposition of any penalty on their exports; Fourthly, adequate financial and technical assistance should be given to the LDCs to facilitate conformity with SPS requirements; the nexus between trade and aid should be strengthened; programmes under the Integrated Framework initiative, which envisages technical assistance for trade related capacity building in the LDCs, should be adequately funded and supported; Fifthly, mutual recognition of conformity assessment and certification procedures should be pursued to avoid conflicting interpretations with respect to standards.

(iv) *Recommendations for Future Work*

169. To summarise, recommendation for further work would essentially include the following:

- At the national level, developing capacities to better implement SPS Standards. Within a holistic national framework rather than a piecemeal manner. Full use should be made of the technical assistance provisions under the SPS Agreement in this context;
- Different options for accreditation and certification should be explored. These could include development of regional standards, umbrella certification procedures as well as national quality logos;
- Through the existing provisions of the SPS and TBT Agreement, trading partners should work together to ensure that Standards are set in a transparent and participatory manner. The definition of international Standards should pay particular emphasis to the participation of developing countries. Regional cooperation will be particularly important;
- Testing of products as well as getting a threshold values should be done in developing countries if the product is not produced in developed countries. Mechanisms for this must evolve in the context of international standard setting procedures;
- Mechanisms should be developed for conducting risk assessment in developing countries, so that they can move from being;
- "Standard takers" to "Standard setters".
- A follow up project which is based on some of the above recommendations would be useful in fostering better regional coping strategies.

ANNEX I: TBT AND SPS IN DETAIL

A TBT

170. The GATT rules governing the use of product standards are contained in the Agreement on Technical Barriers to Trade. The 1979 Agreement was revised in the Uruguay Round. The Agreement makes a distinction between standards whose compliance is mandatory and those for which compliance is voluntary. The term technical regulation is used for mandatory standards, and the term standard is used to denote voluntary standards.

171. Technical regulations adopted for environmental objectives are explicitly within the scope of the Agreement. The preamble to the Agreement recognizes "that no country should be prevented from taking measures necessary" inter alia "for the protection of human, animal or plant life or health" or "for the protection of the environment", "at levels it considers appropriate, subject to requirements" that

- "They do not constitute a means of arbitrary or unjustifiable discrimination between countries were the same conditions prevail" or
- "A disguised restriction on international trade" and
- "That they are "otherwise in accordance with the provisions of the Agreement

172. The 1979 Agreement did not cover Process and Production Methods (PPMs). The revised Uruguay Round Agreement now defines technical regulations as referring to "product characteristics and their related production methods". However, this wording is understood to limit PPMs to those processes and production methods, which have an effect on the characteristics of the product itself. For example the revised text would allow prohibiting imports of pharmaceuticals, which do not meet certain requirements regarding good manufacturing practices and cleanliness of the plant, thus affecting the quality of the product.

173. The Agreement requires that standards are applied on an MFN basis to imports from all sources and that the imported product should not be extended treatment which is less favourable than that accorded to the 'like product' of national origin (national treatment rule). (Article 2.1).

174. Whenever a relevant international standard does not exist or the technical content of a proposed regulation is not in accordance with that of an international standard, and if the technical regulation may have a significant trade effect, it must be notified to the GATT Secretariat in draft form. The TBT text has a provision for the establishment of Enquiry Points (Article 10), which receives the notifications from the GATT Secretariat and facilitates the access to information on national standards. These notification system obligations will reduce the possibility of standards becoming barriers to trade.

175. The Agreement encourages countries to use international standards. Where technical regulations are required and relevant international standards or their completion is imminent, countries shall use them as a basis, except when such international standards would be an

ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued (Article 2.4).

176. Countries may deviate from international standards when such international standards would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems. The TBT Agreement explicitly recognizes that environmental protection constitutes such a legitimate objective.

177. The revised TBT Agreement requires that technical regulations shall not be more restrictive than necessary to fulfil a legitimate objective, taking into account the risks non-fulfilment would create³³. In assessing such risks, relevant elements of consideration are, inter alia, available scientific evidence and technical information, related processing technology and intended end use of products. (Article 2.2).

178. The importance which the Agreement puts on the use of scientific evidence is further brought out by the dispute settlement provisions, in particular regarding the possible establishment "of a technical expert group to assist in questions of a technical nature, requiring detailed consideration by experts" (Article 14.2). Specific procedures for the Expert groups are included in an Annex to the Agreement.

179. Further, in order to ensure that trade is not affected because of the differences in standards, the Agreement requests countries "to accept as equivalent" technical regulations, even if such regulations differ from their own, provided they are satisfied that they fulfil the objectives of their own regulations. (Article 2.7).

180. Special and differential treatment of developing countries is focused on providing developing countries more time to comply with the obligations of the TBT, i.e with the notification of their domestic regulations. It does not give them a differential schedule for meeting standards in OECD countries. Further while there are provisions for harmonizing measures or accepting the rules of other countries as equivalent, it is possible that establishing equivalence may be a slow process. There also appears to be recognition by the regulators that such measures used by countries will inevitably have trade limiting effects - the important issue will be to learn how.

B SPS

181. SPS measures include, among other things, any measure to protect human or animal life or health within the territory of the importing country from risks arising from additives, contaminants, toxins, or disease-causing organisms, in foods, beverages and feedstuffs, as well as to prevent establishment or spread of pests. The agreement calls on countries to base their SPS measures on international standards and, in order to develop such international standards, to participate in the activities of international organisations like the Codex Alimentarius Commission and the International Office of Epizootics.

182. The SPS provisions differ from those of the TBT Agreement in three important aspects: First, while the TBT Agreement requires that product regulations be applied on a MFN basis, the SPS permits Members to impose different sanitary and phytosanitary

³³ It has sometimes been mentioned that this provision is intended to ensure proportionality between regulations and the risks non-fulfilment of legitimate objectives would create, although this is not mentioned in the text.

requirements on food, animal or plant products sources from different countries, provided that they "do not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail". The rationale for this is due to differences in climate, pests or diseases and food safety conditions. Second, the provisions of the SPS Agreement explicitly permit governments to choose not to use international standards. National standards which are higher than international standards are allowed and should they result in a greater restriction of trade, the government may be asked to show scientific justification for the measure, or the could demonstrate that the international standard would not result in the level of health protection it considers appropriate. Third, the SPS Agreement introduces the precautionary approach and permits member countries to adopt SPS measures on a "provisional basis", in cases where "relevant scientific evidence is insufficient" by taking into account "pertinent information" that may be available from them or from other Members or from the relevant international organizations.

183. The adaptation to regional conditions under SPS Article 6 is a burdensome procedure. Thus clear reference should be made in this article that scientific and administrative support shall be provided by international organizations and developed countries to facilitate the implementation of provisions on adaptation to regional conditions. Moreover, if a country or an area has been found to be disease free, all trading partners, without a need to provide additional evidence, should accept this.

184. The SPS agreement like the TBT may reflect a concern that rules which are identical may in their application be trade distorting, and do not provide the "equivalent competitive opportunities" to imported products as they do to like domestic products. However, article 9 does provide for technical assistance for developing countries, and article 6 allow exporters to adapt to regional pest and disease free conditions. Article 10.2 recognizes that it may take developing countries longer to comply with new regulations. It remains to be seen how this concern will be translated into the national legislation of importing countries. Time limited exceptions to the obligations under Article 10.3 may be of some help to developing countries, but invoking this article will not be in their export interest.

185. The SPS Agreement can also be used to prevent or limit potential damage to a country that could result from the entry, establishment, or spread of pests. SPSA measures include relevant laws, decrees, regulations, requirements and procedures, including end product criteria, processing and production methods, and packaging and labelling requirements directly related to food safety. The formulation of these measures is to be based upon standards, guidelines and recommendations developed by international organizations. However, each Government has the discretion to determine its own level of acceptable risk and are explicitly permitted to impose more stringent requirements than those based upon international standards. A country that selects a standard that exceeds international guidelines is required to justify its use if a trade dispute results.

ANNEX II: TRADE DISPUTES CONCERNING THE SPS AGREEMENT

EC measures concerning meat and meat products hormones

186. In 1989, the EC banned imports of meat produced with hormones from the United States and Canada. The EC claimed that the hormones contained in the meat might be carcinogenic. In 1998, the WTO Appellate Body ruled against the EC. The EC was given 15 months to bring its law in conformity with SPS rules. Because the EC failed to remove the ban, the United States and Canada took retaliation measures. Various aspects of the panel findings are discussed below:

Australia-measures affecting the importation of salmon

187. In 1975, Australia banned imports of uncooked Salmon from Canada to prevent the introduction of exotic pathogens in its environment. In October 1998 Australia was given 8 months to bring its law into conformity with SPS. When Australia failed to remove the ban, Canada threatened with trade retaliation.

Japan-measures affecting agricultural products

188. In 1950, Japan banned imports of apples, cherries, nectarines and walnuts. Japan deemed them potentially infested with codling moth. In 1987, Japan agreed to lift this ban subject to the condition that certain quarantine and fumigation requirements be met. However each variety of fruit was to be individually tested. The separate testing provoked the WTO dispute. The Appellate Body ruled against Japan in February 1999. At the end of 1999, Japan agreed to bring its regulation into conformity with SPS rules.

A The historical context of the sps agreement

189. Panels hardly ever tested GATT rules on sanitary and phytosanitary measures. A GATT standards Code written in 1979 proved inadequate to provide the level of protection desired by the members in the sphere of health related standards. Efforts to draft SPS Agreement began in late 1980s. SPS has more stringent disciplines than GATT. Health exception in GATT Art XX (b) is not available to a government as a defence in an SPS lawsuit.

B SPS rules and case-law

190. SPS pertains to laws or regulations to protect against exposure to pests, microorganisms, additives, contaminants and toxins in foods. Protection against insecticide in fruit is covered by SPS. Protection against bio-engineering in food however might not be covered. A measure governed by SPS is excluded under TBT (WTO Agreement). In all SPS cases, panels consulted experts (provision in SPS), but the burden of proof lies with the government lodging the complaint.

The science requirement

191. SPS Art 2.2 requires that SPS measures are applied to the extent necessary to protect health, based on scientific principles and maintained with sufficient scientific evidence. In the Agricultural Products Panel of Japan versus Canada, the Appellate Body interpreted this provision to require “a national or objective relationship between the SPS measure and the scientific evidence.”

192. The panel and the Appellate Body concluded that Art 2.2 was being violated because Japan could not show that the quarantine and fumigation used for one variety of fruit or nut would be inadequate for other varieties. While the SPS Agreement requires use of “sound science”, this term does not appear in the Agreement. Other scientists can challenge scientific study for an SPS measure, and while the Agreement has no provision for dealing with conflict of science, no doubt future panels will throw some light on this.

Risk assessment requirement

193. Art 5.1 requires SPS measures are based on assessment, as appropriate to the circumstances, of the risks to life or health. However, according to Panel interpretations both “mainstream” and “divergent” views on risk assessment would be admitted. Further the agreement does not require any quantitative conclusions, but does mandate that the complainant must find evidence of an “ascertainable” risk. In the Salmon case of Australia versus Canada, “unknown and uncertain elements” made for improper risk assessment. In the Beef Hormones case, evidence on record showed that the use of hormones as a growth promoter was safe, yet EU argued that the evidence on risk assumed “good veterinary practice”, which may not have been practised. EU was faulted for not conducting a risk assessment of this prospect – a violation of Art. 5.1.

194. SPS disciplines can disallow health regulations aimed at genuinely unsafe practices, by insisting that health measure in dispute should be “based on” the risk assessment. In the Beef Hormones case, the panel required reliance on risk assessment and undertook an analysis of EU’s decision-making process. In this case it rejected EU’s attempt to incorporate minimum procedural obligations into SPS. It brought into play terms such as “sufficiently warrant”, “sufficiently support”, “reasonably warrant”, “reasonably support”, or “rationally support” using the health measure, “objective relationship” or “national relationship” between the risk and the measure.

195. In the Beef Hormones case, this test found that the EU risk assessment did not support the ban and one expert testified that one in a million women would get breast cancer out of eating the meat produced with growth hormones. It is unclear if the expert was deemed speculative or the risk unimportant.

196. It is to be noted that Violation of Art 5.1 is a violation of the science requirement in Art. 2.2. This conclusion was upheld in the Salmon panel.

197. However, there is no instruction in the SPS Agreement to apply benefit-cost analysis in determining risk assessment.

The requirement for national regulatory consistency

198. Art. 5.5 states that “with the objective of achieving consistency”, a government shall avoid arbitrary or unjustifiable distinctions if such distinctions result in discrimination or a disguised restriction on international trade. SPS Agreements call on WTO Committee on SPS Measures to develop guidelines for the implementation of this provision. Neither of the first two SPS panels was willing to await those guidelines.

199. Three elements of violation of Art. 5.5 are to be noted:

- The defendant government must be seeking different levels of health protection in “comparable” situations.
- The differences in the government’s intended level of protection must be “arbitrary or unjustifiable”.
- The health measure embodying these differences results in discrimination or a disguised restriction on international trade.

200. In the Salmon Panel, the Appellate Body offered five arguments: the first two point to the lack of risk assessment and to the different levels of health protection being sought. The third argument is that there was a “substantial” difference in the level of health protection being sought. The fourth argument is that an Australian government draft report in 1995, which would have been tolerant of salmon imports, was revised in the final report of 1996. The fifth argument is that Australia lacks strict internal controls on salmon equivalent to those it imposes at the border against foreign diseases. According to the Appellate Body, whereas no single one of those arguments might be conclusive, together they add up to a trade law violation.

201. It is unclear why the Appellate Body did not realize that an island nation might need stricter health controls at the perimeter than internally. According to Australian government, there are at least 20 diseases of salmon not currently found in Australia.

The requirement of least trade restrictiveness

202. Article 5.6 states that governments shall ensure that SPS measures are "not more trade restrictive than required to achieve their appropriate level" of protection. To prove a violation there must be an alternative measure; reasonably available that is significantly less restrictive to trade. In two cases the parties were found to have violated this article, but this charge of violation was withdrawn on appeal. However, in analysing an alternative measure, panels will consider whether it matches the intended level of protection, not the level of protection actually achieved by the SPS measure. Additionally, the complainant must show that such an alternative measure exists.

The requirement to use international standards

203. Art 3.1 states that governments “shall base” their SPS measures on international standards (Codex Alimentarius, IOE, IPPC). When such standards do not exist, Art. 3.1 has no effect. When international standards exist, a member country may nevertheless use a higher standard, lower standard or conform to the international standard. It is not clear how much of a “safe harbour” using international standards will be? Even if a country uses

standards higher than international standards, they must nevertheless meet all SPS requirements, i.e. the sound science, risk assessment, the regulatory consistency, and the least trade restrictive ness conditions. However it is worth noting that by using an international standard a country signals a rebuttable presumption of non-discrimination. In the beef hormones case, the burden of proof shifted to a government not using an international standard.

The recognition of equivalence

204. Art 4.1 requires an importing country (or a government refusing to import) to accept an SPS measure by an exporting country as equivalent to its own, if the exporting government can objectively demonstrate that its health measure achieves the level of protection chosen by the importing government.

The transparency requirement

205. Annex B requires governments imposing a regulation to notify the WTO and to allow time for affected governments to make comments and for the regulators to take such comments into account.

The precautionary principle

206. "Precautionary Principle", is an emerging tenet in international environmental law. It implies that

"where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation",

A definition that has been set out by the 1990 Bergen Ministerial Declaration on Sustainable Development and reiterated by the Rio Declaration (principle 15).

207. The precautionary principle has recently been cited in several international legal instruments. Besides the Rio Declaration, it has been fixed in the Framework Convention on Climate Change (art.3 para.3), the World Charter for Nature (principle 11 lit. b) and the Treaty of Maastricht, which will amend art.130 R para.2 of the EEC Treaty by adding the precautionary principle to the guidelines for European environmental policy and legislation.

208. The principle could, for instance, be implemented by the application of the best available, and not excessively expensive, technology. Once an obligation in international law, it would influence the regime of State responsibility by representing a primary obligation of States that, in the case of its infringement, could lead to the payment of damages.

209. The nuances in the usage of the principle concern:

- The circumstances under which the principle can be applied (only when there is a serious threat perceived);
- The amount of scientific proof required (i.e. some or none);

- How cost-effective are the measures (which could undermine the principle itself, since it would imply that non-cost effective measures to prevent serious or irreversible damage should not be taken);
- The extent of co-operation required in implementing preventive measures;
- concessions for developing countries;
- The specificity of definitions (vague recommendations can effectively operate as legal loopholes); and
- The legal status accorded to the principle.

210. Some have noted that in the SPS Agreement there is no reason to conclude that the existing language in Art 5.7 is inadequate. Proposals to tighten or loosen this article in the light of its usage as an internationally agreed principle in the environmental context may be considered as premature. Proposals to incorporate the precautionary principle into Art 5.7 are problematic, as outside the realm of environment this principle does not have general acceptability. In addition, there is a consideration of cost-effectiveness in justifying precautionary measures, as the Rio principles do advocate, “measures based on precautionary principle must include a cost/benefit assessment”. On the other hand SPS does not mandate the use of cost-benefit analysis.

ANNEX III: QUESTIONNAIRE GIVEN TO PARTICIPANTS IN THE PROJECT

(i) *Issues to be addressed*

211. The experts carrying out research under the projects examined which (external and/or domestic) factors cause (potentially) adverse trade effects of SPS measures and/or environmental requirements and proposed policies and measures that could prevent such effects from arising, in particular by strengthening national and regional capacities to respond to such standards and SPS measures. Recommendations were made for (a) actions at the national level; (b) action at the international (bilateral or multilateral level) and/or (c) measures in the context of the MTS, in particular the SPS and TBT Agreements.

(ii) *Methodology*

212. The analysis carried out under the project is based on:

- Interviews with producers/exporters, industry associations, government officials and others;
- Use of primary and secondary information. Where possible, compliance costs was estimated.

(iii) *Questions*

213. The following lists of questions provided guidance for the analysis carried out under the project.

Adverse trade effects

214. Have there been adverse trade effects? Adverse trade effects may include:

- Loss of export markets, either because producers cannot comply technically or because compliance costs are prohibitive;
- Diversion of exports to markets where requirements are less stringent;
- Price reductions

Factors causing (potentially) adverse trade effects

215. Factors causing (potentially) adverse trade effects, may include, for example:

- Lack of transparency in the design and implementation of the measure in the importing country
- Stringency of the measure (which may be perceived as unreasonable), inadequate use of science and risk assessment
- Lack of awareness or access to information on the part of the exporter (and/or of the importing firm or retailer).

- Compliance costs
- Firm size (problems which are typical for small sized enterprises)
- Insufficient domestic infrastructure (e.g. lack of testing, certification facilities; etc.)
- Legal factors (no comparable domestic standards or lack of enforcement of domestic legislation)
- Insufficient access to technology
- Insufficient supply of environment-friendly inputs, prescribed chemicals
- Cost of imported inputs.

216. Avoiding unnecessary adverse impacts on exports from developing countries and strengthening their capacities to respond to SPS measures and environmental requirements

(iv) **Recommendations**

- In the area of trade rules (WTO)
- In more transparent and participatory preparation of standards in the importing
- To be implemented by the importing country, aimed at avoiding unnecessary adverse effects on developing countries
- Bilateral and/or multilateral co-operation, transfer of technology, technical assistance
- At the national level: trade promotion (dissemination of information, building infrastructure, etc.)
- effective implementation of comparable standards in the domestic market or on a regional basis
- promoting a process of innovation, enterprise development, etc.
- regional co-operation
- specific measures for SMEs
- branding and umbrella certification.

217. With regard to (a), possible recommendations in the context of the WTO could focus on areas such as:

- Use of technical assistance provisions
- Ssessment of the risk of non-fulfilment
- Regional standards and their possible use
- Equivalence
- Special and differential treatment
- Transparency

218. Questions for food processors used in the brainstorming at FICCI

- What are the major constraints that they face in expanding processed food exports?
- Are they being provided by any subsidies, what and by whom?
- What are the major problems that they have with food standards?
- Have they had any tie ups with Multinationals and has that helped standards and how?

- Are there adequate testing facilities available in India and have they received any technical assistance within the WTO framework.