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FOSTERING A MUTUALLY SUPPORTIVE TRADE AND ENVIRONMENT REGIME: PERSPECTIVES AND LESSONS LEARNT AT REGIONAL LEVEL

Background paper

SUMMARY

This report presents the key findings and lessons learnt identified in the course of implementation of the Development Account project “Capacity Building in Trade and Environment”, jointly implemented by ECA, ECLAC, ESCAP and ESCWA, in partnership with UNCTAD, UNEP and the WTO. The project analyzed the key linkages between trade and environment, both in terms of exports and imports, and focused on issues such as the relationship between environmental requirements and market access; environmental goods and services; the environmental impacts of trade liberalization, and policy coherence.

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INTRODUCTION

1. The linkages between trade, environment and development are multiple and multifaceted, and have important implications for sustainable development. In an ever more globalized economy, these linkages have grown in complexity and importance, and have increased the need for developing mutually supportive trade and environment policies. The need for policy coherence in the areas of trade and the environment can be placed in the larger context of policy coherence for sustainable development, which has received increasing attention. The outcomes of several major intergovernmental conferences in recent years are relevant to this debate.

2. World leaders gathered at the United Nations Millennium Summit in September 2000 recognized the need to integrate the principles of sustainable development into country policies and programmes, and adopted this as one of the eight Millennium Development Goals (MDGs), MDG 7.

3. At the 4th Ministerial Conference of the World Trade Organization (WTO) held in November 2001, WTO members emphasized the importance of the trade and environment nexus, by including negotiations on trade and environment in the Doha Development Agenda (Paragraph 31 of the Ministerial Declaration), as well as identifying priority areas for discussion (Paragraph 32) and recognizing the importance of technical assistance and capacity building in the field of trade and environment to developing countries, in particular the least-developed among them (Paragraph 33).

4. The need for a mutually supportive trade and environment regime was further expressed at the World Summit for Sustainable Development in 2002. In that occasion, Member States called on United Nations organizations, including regional organizations, to enhance the delivery of coordinated and targeted technical assistance and capacity building programs on trade and environment[1], and particularly to promote cooperation on trade, environment and development and provide technical assistance to developing countries to this end.[2.]

5. The Development Account [3] project "Capacity Building in Trade and Environment" was formulated against this background. The project was jointly implemented by the Economic Commission for Africa (ECA); the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP), and the Economic and Social Commission for Western Asia (ESCWA); in partnership with the United Nations Conference on Trade and Development (UNCTAD), the United Nations Environment

[1] WSSD Johannesburg Plan of Implementation (JPOI) Art. V, 47.(e) September 2002
[2] JPOI, Art. IX, 97(c)
[3] The Development Account was established by the United Nations General Assembly as a special multi-year account for supplementary development activities, and to act as an integral part of the technical cooperation activities of the economic and social entities of the United Nations under the umbrella of Executive Committee for Economic and Social Affairs (EC-ESA).

Programme (UNEP), the WTO and the Economic Commission for Europe (ECE), in the course of 2005-2007.

6. As a regional and interregional project, it focused on regional, sub-regional and national approaches such as sharing of good practices and networking. Activities included the preparation of regional studies in each region, as well as regional, sub-regional capacity building workshops and national roundtables.

7. This report presents some of the key findings and lessons learnt identified in the course of project implementation.[4]

I. FOSTERING A MUTUALLY SUPPORTIVE TRADE AND ENVIRONMENT REGIME: KEY ISSUES AND CHALLENGES

8. As mentioned above, the linkages between trade, environment and development are numerous and intricate. The policy debate around the subject reflects this complexity, and has expanded in recent years to encompass a multitude of issues, such as intellectual property rights, investment, technology transfer, standardization, agriculture, biotechnology or climate change.

9. The project aimed at building capacities to maximise positive economic benefit and minimize environmental pressure arising from trade expansion and liberalization. For this purpose the project analyzed some key linkages between trade and environment, both in terms of exports and imports, and focused on major issues, such as the relationship between environmental requirements and market access; environmental goods and services; the environmental impacts of trade liberalization, and policy coherence. This section provides a concise overview of each issue.

Environmental Requirements and Market Access

10. With progressive trade liberalization and consequential lowering of tariffs and quotas, non-tariff measures (NTMs) have become increasingly important factors influencing market access. In particular environmental and health-related NTMs have greatly increased in number and complexity in recent years, and have been at the centre of heated discussions within international trade fora, with developing countries fearing new forms of protectionism hidden behind these trends. The inclusion of the effects of environmental measures on market access and eco-labelling as priority issues for discussion within the WTO Committee of Trade and Environment (CTE)[5] underscores the relevance of the subject.

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[4] All documentation produced under the project, including studies, training material, presentations and proceedings of workshops and seminars can be accessed on-line at: http://www.un-trade-environment.org/

[5] Paragraphs 32(i) and (iii) of the Doha Ministerial Declaration.

11. Environmental and health-related requirements can be of different types and nature. Requirements can be mandatory, such as technical regulations, or voluntary, as standards and certain labelling schemes. They can address the characteristics of end products, such as maximum residue levels (MRLs) of pesticides in food, but also process and production methods (PPMs), such as sustainable forestry labelling schemes. Requirements are set by different actors and to fulfil different objectives: Governments may set requirements to protect human, animal and plant health, as well as the environment; the private sector to respond to consumer preferences, differentiate products, or for supply chain management; and non-governmental organizations (NGOs) to promote specific environmental and developmental goals (e.g. biodiversity conservation or fair trade).

12. In the food sector, for example, requirements, both public and private, are developing beyond basic food safety with increasing pressure towards traceability and accredited certification. Moreover, there seem to be no clear boundaries between environmental, health and social standards.These trends have added to the difficulty in dealing with these requirements not only from a managerial point of view but also from a legal one. Within the framework of the WTO, considering again the example of food products, requirements may fall under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), if related to food safety, or under the Agreement on Technical Barriers to Trade (TBT), if related to food quality. Moreover, given the growing importance of private sector standards in determining market access, there has been mounting debate on whether, and how, these measures could be treated under the current legal framework of the WTO.

13. The effect that these requirements have at national and corporate level is also complex and may vary. Many argue that complying with these requirements increases costs and negatively affects competitiveness. It is also argued that requirements developed in importing countries may not necessarily be suitable for the environmental and developmental context of exporting countries. On the other hand, many see compliance with these requirements as an opportunity to increase efficiency and reduce negative impacts on human health and the environment. Opportunities in this regard may include, inter alia: new market opportunities and identification of competitive advantages; opportunity for investment in supply chain modernization; increased quality of produce; increased resource efficiency; improved health and safety of workers and domestic consumers; opportunity to upgrade legislation.

Environmental Impacts of Trade

14. Trade has both direct and indirect effects on the environment. Trade directly impacts the environment in terms of the pollution associated with the transport of goods (e.g. CO2 emissions). Traded goods can be themselves hazardous for human health and the environment, for example in the case of hazardous waste or harmful substances (e.g. certain pesticides). Other traded goods may not be harmful per se, but can pose threats if they are not properly disposed, as for example electrical and electronic equipment.

Traded goods can also spread pests and diseases, or introduce invasive animal and plant species. On the other hand, trade liberalization can also spread the use of environmentally-friendly technologies or environmentally-preferable goods.

15. Of equal importance are the indirect effects. Trade liberalization can induce structural changes in the economy that can result in a shift towards, or away from, more pollution- and resource-intensive sectors. Trade liberalization can also result in an expansion of the economic activity. This can result in higher efficiency, but also in greater extraction and use of resources and pollution, which may not be compatible with the local carrying capacity and thus threaten long term sustainability. The impacts of trade liberalization on sustainable development are not confined to the environment alone, since trade patterns influence economic growth, employment, wealth distribution and social development.

16. Trade liberalization itself is, therefore, neither good nor bad for the environment, but trade patterns have important effects, both positive and negative. Therefore, it is imperative to identify and analyse such effects and take them into account when negotiating trade rules and in developing trade policies. Integrated Assessment (IA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) can be useful tools in this regard.

Environmental Good and Services

17. No agreed definition of what constitutes environmental goods and services (EGS) exists. For analytical purposes, the Organization for Economic Cooperation and Development (OECD) has defined them as "goods and services used to measure, prevent, limit, minimise or correct environmental damage".[6] In the context of WTO negotiations, another category of environmental goods has been added to this definition, that of Environmentally Preferable Products (EPPs), products that are not used for environmental purposes, but that possess positive environmental characteristics, vis-à-vis other substitute goods. A broader definition of environmental services could include services provided by ecosystems, although this category is of difficult inclusion in current WTO negotiations, since market mechanisms for these services are in infancy stage.

18. Beyond the issue of definitions, WTO Ministers considered launching negotiations on environmental goods and services because they saw the potential of creating triple win situations, for trade, environment and development. There are in fact several gains that could be obtained from trade liberalization of environmental goods and services. Countries that have developed a competitive environmental services industry (mostly developed countries) can expect to expand the market for their EGS, whereas countries importing these goods and services may benefit from lower prices and better quality induced by more competition, and ultimately from improved environmental conditions. There may also be longer-term gains brought about by the transfer of

[6] Environmental Goods and Services Industry Manual for the Collection and Analysis of Data, OECD/Eurostat, 1999

technology and that could enable the development of the EGS industry with export prospects. In addition, developing countries may benefit from the inclusion in negotiations of EPPs in which they have a comparative advantage.[7]

19. As mentioned in the previous section, however, trade liberalization can have both positive and negative effects. Local suppliers of environmental services and producers of environmental goods could be driven out of the market due to import competition. This would have negative effects not only in terms of employment and income generation, but also for the long-term development of a national EGS industry. Therefore, countries need to carefully analyze whether and how EGS trade liberalization should be pursues, taking into consideration national circumstances and developmental objectives.

Policy Coherence

20. The growing interdependence of countries worldwide brought about by globalization is not confined to increasing cross-border movements in natural and human resources, goods and services, capital flows, or a more rapid and widespread diffusion of technology. In a globalized world, national and international policies are increasingly interrelated, and countries are called upon to integrate increasingly complex issues into development processes. This results in a reduction of domestic policy space available to pursue development objectives, especially for developing countries, which have less leverage to influence the international order.

21. Moreover, these issues may be managed under different and complex legal regimes, as it’s the case for trade liberalization and environmental protection. This calls for coherence in the different set of policies and rules of these regimes, if sustainable development objectives are to be achieved. The need for policy coherence applies to different levels. It requires consistency of aid and non-aid policies of donors, of aid policies of different donors, of domestic and international policies to achieve shared development goals, and of domestic policies to achieve domestic development goals.

[7] In this connection, Brazil and Peru have recently proposed that biofuels and organic food be considered as environmental goods subject to tariff cuts or elimination in the Doha Round.

II. LESSONS LEARNT AT REGIONAL LEVEL

22. This section presents the key findings and lessons learn identified in the course of project implementation in the four regional components.

2.1 Lessons Learnt from Africa

Africa's Production and Trade Structures: a Constraint to Sustainable Development

23. The structure of Africa's production and trade has not led to growth and sustainable development. The bulk of Africa's exports consist of primary agricultural products (mainly tree crops, timber), minerals and oil. The type of crops produced and extensive system of cultivation due to lack of application of nutrient-replenishing products has led to extensive deforestation. This has been exacerbated by timber and mineral exploration to the extent that Africa is the most deforested continent in the world. Studies have also shown that the lack of in-depth processing of all of Africa's export products has also increased the rate of deforestation. For most countries, about 60 percent of the forests are gone.

24. While terms of trade have deteriorated over more than two decades, environmental degradation has increased from the production of primary products, minerals and oil. Traditional tariff and non-tariff barriers have made it difficult for Africa to move up on the value added chain. Also, emerging environmental concerns in trade and other hazardous goods offer both challenges and opportunities. Very little of Africa's trade is inter-regional trade. Only 1.6% of trade was interregional made up of manufactures accounting for 0.9 % and primary commodities 3.9% in 2003. This represents a decline from 2002 of total trade of 1.9% but still higher than 2002 where total merchandise trade stood at 1.2% (UNCTAD 2005). Africa's share of exports in fuels has increased to 50% recently from approximately 40% in the early 1980's. Non-Fuel primary commodities over a similar period have declined from approximately 32 % to 24%.

25. There has been the phenomenon of downward trend in the movement of relative prices of primary commodities vis-à-vis manufactures since the end of World War II. Between 1997 and 2001, the UNCTAD combined price index of all commodities in US dollars fell by 53 per cent in real terms. World Bank estimates cited by UNCTAD suggest that the cumulative losses resulting from adverse terms of trade over a period of almost three decades (1970–1997) for African non-oil-exporting countries (excluding South Africa) amounted to 119 per cent of the combined GDP of these countries in 1997, 51 per cent of cumulative net resource flows, and 68 per cent of net resource transfers to the region. This has shown that Africa's experience with trade liberalization has not been pleasant. Instead of unleashing market led investment and revival of growth, forced and premature liberalisation has contributed in direct and indirect ways to a regression in development performance and rise in poverty levels.

26. As predominant exporters of primary commodities, African exporters are vulnerable to application of environmentally related non-tariff barriers that often tend to be non-transparent and in violation of the spirit of existing trade rules. For instance domestic SPS and TBT are changing at short notice and sometimes without warning. The new requirement for inspection at points of entry, for example, leaves the burden of losses to be borne entirely by the exporter unlike the previous situation when the inspection was accepted at point of departure thereby minimizing the costs (insurance, transport, disposal etc) to the exporter. It is reported that small and medium enterprises that constitute the bulk of Africa's firms are major bearers of such "surprise costs."

27. OECD studies show that there are high costs for producers and exporters in developing countries from these requirements. For instance, during the ban of Uganda's fish exports to the European Union (EU) due to the country's inability to comply with SPS requirements, the loss to fishermen on account of reduced prices and less fishing activity was estimated at US$1.0 million per month. The World Bank TBT Survey database, with 619 firms in 17 developing countries including Africa, showed that technical regulations could adversely affect a firms' ability to export in developing countries. Testing procedures and lengthy inspection procedures for example reduced exports by 9% and 3%, respectively.

28. Current consumption and production systems produce a large amount of waste. UNEP estimates the total international generation of hazardous wastes between 300 and 500 million tonnes. Hazardous waste production is mainly located within the Organisation for Economic Cooperation and Development (OECD) countries that account for about 80 to 90% of hazardous waste.

29. Africa has major challenges from trade in hazardous goods. Because the disposal costs of hazardous wastes in Africa is about 2 percent of those in industrialized countries, coupled with the lax domestic surveillance and screening procedures there are increased incentives for hazardous wastes dumping in Africa. The most notorious case is the Karin B case where an Italian had facilitated the dumping of 2100 tonnes of toxic waste in Nigeria in between 1987 and 1988.

30. In addition to trans-border trade in hazardous and prohibited goods, there is growing concern regarding cross-border trade in sub-standard and/or second hand goods. These latter categories encompass a wide range goods such as electronic products (computers, television sets, video recorders and printers), transport equipment (vehicles, retreaded tires and used spare parts), food items and medicines (often sold after expiry dates), and second hand clothing. This constitutes dumping of wastes since most of these products become obsolete in a short time and the need to dispose of them become paramount. Again, in Nigeria, the dumping of electronic equipment under the guise of bridging the digital divide is taking place. However some reports indicate that over 75% of the equipment sent to Nigeria is unusable and unsuitable.

31. Trade in second hand clothing has been facilitated in part by the reduction of tariffs in many developing countries. Also because of consumer's acute price sensitivity, a large market for second hand clothing has developed in many African countries. Sub-Saharan Africa has a particularly high dependence on second hand clothing (SHC), about 26% of all imports compared with an average of less than 5% in the developing world and 15% in South Asia. Globally the trade in SHC is estimated at US$1 billion per annum. The problem with SHC is that it undermines local processing (and consequently negatively affects employment) and makes Africa lose all other benefits from value addition.

32. West Africa, which is particularly vulnerable to dumping of cotton on international markets, exports 95% of its cotton as raw fibre. In the West African Monetary Union (WAEMU), as a result of this practice the 41 industries that existed in the 1990's have been reduced to about 6 in 2004. Nigeria's textile sector has lost about 80,000 jobs in the last few years. There is no way Africa is going to achieve sustainable development if such practices continue.

33. From a consumer welfare perspective, the SHC trade shows that it is meeting the needs of price sensitive consumers who are able to benefit from lower prices. It has also created some employment in the SHC sector. However from a developmental perspective, the SHC industry seems to have many contradictory effects. On the one hand it has created a pool of employment located in the formal and informal sectors. On the other hand, it limits the development of the local productive sector that clearly has a comparative advantage in cotton growing. The need to move up the value chain in production (and hence increase the carrying capacity of the economy) is stunted both by SHC and cheap imports. Besides, this phenomenon is a vicious cycle. The benefit is only of price. Since SHC is solely and import activity, the benefit of local cotton production, employment in the processing and distribution section sections with the association income generation at all value added sections are lost. So imports of SHC will continue to perpetuate low incomes that can only be used to demand SHC. However, we go up the value added ladder, incomes will increase to allow consumers to demand high value textile products.

Emerging Products with Trade Potentials

34. In addition to the traditional fruits, vegetables, fisheries, meat and beverages items such as coffee, tea and cocoa in which Africa has comparative advantage, new products such as flowers and organic foods are becoming important. Many African countries have the prospect of yielding significant increases in export earnings. However, most of these sectors have declining terms of trade and diminishing returns. Unless countries strive to move up on the value chain of these products, the long-term impact on growth in employment, incomes and poverty reduction will at best be marginal.

35. One area where significant growth is taking place is in organic foods. As a result of the rise in demand for organically grown agricultural products, many countries in Africa are attempting to increase the share of such items in their exports. In East Africa

(Uganda, Kenya, Tanzania, Rwanda and Burundi), organic agriculture is among the fastest growing sectors is taking the lead in producing organic foods. By 2006, East Africa represented more than 50 percent of the total certified land on the African continent. In Uganda, for instance, organic exports have been growing at an average of 60 percent per annum. Price premiums can be important incentives for farmers to shift to organic production; however, on account of the onerous certification, labelling, packaging and similar costs the margin of premium is often insufficient to render organic production profitable. These margins are also believed to be declining. It is likely that organically grown exports will acquire greater importance and weight in individual African countries exports; however, their role and potential should not be exaggerated as they are unlikely to supplant traditional items in the foreseeable future.

Policy Options to Address Trade and Environment Bottlenecks in Africa

36. For Africa to benefit from world trade and contribute to its sustainable development, she must address the value added problem. Africa must move up the value added chain, especially for the agricultural sector, using relevant policy options, regional integration and diversifying trade destination points away from Europe. This policy shift will address the terms of trade problems, expand employment and boost incomes and pave the way for poverty eradication and sustainable development. To understand the true cost to Africa on its production activities, countries must undertake environmental accounting of its most important sectors with the view to formulating policies to reduce these costs. This policy shift will also require trade negotiations for the removal of other barriers as countries move upward on the value chain.

37. Dumping hazardous and second-hand goods in African countries are likely to have negative health and environmental impacts or impede the sustainable development of countries in the long run. The short cut methods of meeting consumer preferences will in the long run represent expensive costs to African countries' sustainable development. Much can and should be done at domestic levels to address these concerns, including sharing of information and data with neighboring countries about such trade and transactions. There should be improved monitoring and surveillance and stricter standards enforcement by national authorities. This could require national, sub-regional and regional capacity building. There is also considerable room for greater international cooperation and interventions at source to help mitigate the dangers, risks and costs associated with this form of trade. Industrialized countries could do more to prohibit the dumping of, for example, sub-standard medicines or electronic equipment that is unusable and by enforcing Basel and the Bamako Conventions.

38. The steady rise of multilateral environment agreements (MEAs) with trade provisions has rendered even more difficult the challenge of making them consistent with multilateral trading rules. As interested parties, African Governments will need to play a more pro-active role in rule and norm setting; absence of their active involvement in this area will have long-term consequences for exports and for managing trade of hazardous substances and products. Nonetheless, in the final analysis, each country has to learn to strike the right balance between consumer preferences and choices on the one hand and

longer-term implications for developing domestic capacity in consumer goods sector on the other.

39. As indicated above, organic agriculture is growing in Africa especially in East Africa. Organic agriculture is associated in Africa with increasing access to export markets, poverty reduction and protecting the environment. The last five years have seen strong growth in organic production in many African countries notably Egypt, Ghana, Kenya, South Africa and Uganda.

40. There are, however, obstacles in terms of high cost of certification, weak capacities among farmers and technicians, the need for local certification to be accredited for acceptance, there is not enough time for foreign certification bodies to stay and help farmers and while certification processes are too long, the certificates expire few months after they had been given. Arising from these constraints there is a need to organize farmers into groups or cooperatives as is done in East Africa. International organizations need to help countries by promoting production and trading opportunities for organic products. In East Africa, a Regional Standard Technical Working Group (RSTWG) has been established to promote organic agriculture.

41. In addition to the above outlined policies to promote organic agriculture, it is important to ensure institutional support and Government policies towards organic agriculture. Also, authorities and other stakeholders in the main importing countries could take measures to facilitate access to their organic markets. Although organic agriculture and trade in organic food products have not yet been significant issues in the context of the WTO, once organic food standards have been notified under the WTO Agreement on Technical Barriers to Trade (TBT), developing countries stakeholders need to negotiate strongly on ways to promote it.

42. In the case of international trade between developing countries and industrialized countries, the argument must be made that there is the need to give preferential treatment to developing countries, especially countries from Africa because the playing field on international trade is not level. Infrastructure (roads, electricity, ICT), Research and Development, etc. constitute huge hidden subsidies for producers in Industrialized countries. This is a justification for negotiating for better trading conditions for African countries.

43. On general access of products from developing countries to industrialized countries within the WTO auspices, African countries should negotiate as a group. UNCTAD recommendations in "African Positive Agenda" on broader level include negotiating for less stringent standards than international ones for exports from developing countries, asking to be given contractual status for technical assistance and technology transfer in SPS and TBT Agreements, enhancing the participation of African countries in international standards bodies should be enhanced, asking importing countries to pay financial compensation to developing countries when exports are disrupted by SPS measures, establishing a link between the TBT, SPS, and TRIPS Agreements, preventing WTO members from applying unilateral measures stricter than

international standards and negotiating longer transition periods for Special and Differential (S&D) treatment provisions.

44. Finally, there is the need to build capacity in the trade and environment area in countries and where appropriately, sub-regionally and regionally, such as building African negotiating capacity. For national capacity building, African countries need to intensify efforts to develop such capacities domestically and in close collaboration with like-minded countries in the region. These efforts should be supported by regional bodies and institutions such as UN-ECA (and the associated African Centre for Trade Policy and the Africa Knowledge Networks Forum) can help chart new approaches to enhance capacity building.

2.2 Lessons Learnt from Asia and the Pacific

45. This section reviews the experiences of countries in Asia and the Pacific, based on the findings of a regional study and several country case studies, analyzing trade and environment linkages in the food and food processing sector[8], as well as on the conclusions and recommendations of regional and subregional workshops organized under the project.

46. World and regional trade in food and processed food products has witnessed a substantial growth in recent years. In particular, world exports of processed food grew at the rate of 8.5 per cent per annum during 1970-2004. As a result, the share of processed food in total food exports increased from around 53% in 1980 to nearly 65% in 2004. In the Asia-Pacific region, whereas the share of agricultural exports in GDP is generally declining, the proportion of food exports in total agricultural exports is increasing in several countries because of the improved performance of processed food exports in recent years. Given the different levels of economic development attained by countries in Asia and the Pacific, there are some variations across and within the different sub regions with regard to the overall trend prevailing in the region as shown in annex in table 1.

47. South Asian countries have witnessed a decline in their share of agricultural exports in GDP between 1989-1991 and 2004, with India as the notable exception to this trend. However, the proportion of food exports in total agricultural exports is increasing in most of the countries in the region. There has been a mixed response with regard to the trend in the share of processed food exports in total food exports in the region. Most of the larger countries witnessed a decline in their share of processed food exports in their

[8] The regional study was prepared by S.K. Mohanty, Research and Information System for Developing Countries (RIS), India. Country case studies were prepared for China, Fiji, Indonesia, Malaysia, Nepal, Sri Lanka, and Viet Nam by the following authors: Prof. Wencong Lu, leading a research team at the Department of Agricultural Economics, Zhejiang University, China; Prof. Biman Chand Prasad, Head of School of Economics, The University of South Pacific, Fiji; Taufiq Alimi, Executive Director, Lembaga Ekolabel Indonesia; Christie F. Robert and Sathanathan Menon, QA plus Asia-Pacific, Malaysia; Tika Bahadur Karki, Nepal Food Safety Centre; Asha Gunawardena, Institute o Policy Studies (IPS), Sri Lanka; and Dinh Duc Truong, Faculty of Environmental and Natural Resource Economics, Viet Nam National Economics University.

total food exports between 1989-1991 and 2004. Smaller countries, particularly least developed countries (LDCs), have performed better than larger ones during this period.

48. The broad trends in the sector are rather distinct in North and South-East Asian countries. In this subregion, there has been a persistent decline in the share of agricultural exports in their GDP between 1989-1991 and 2004. However, the trend in the share of food exports in total agricultural exports is not obvious. While the proportion of food exports in total agricultural exports is increasing in large countries, such as China and the original Association of Southeast Asian Nations (ASEAN) member countries, it is decreasing for Indo-China countries and countries having low agricultural activities in the domestic economy. However, the proportion of processed food exports in total food exports increased in most countries in the subregion during the last decade.

49. Pacific countries exhibit similar trends to those in other subregions with regard to trade in the processed food sector. The contribution of agricultural exports to GDP is declining in a number of important countries, except for Papua New Guinea. The experience of these countries with regard to the composition of food exports to agricultural exports has been mixed. However, the share of processed food exports in their total food exports has increased in a large number of countries during the last decade. The experience of Asia-Pacific countries is consistent with the structural transformation taking place in different parts of the world.

50. Experience shows that for many developing countries export of processed food has emerged as a new dynamic sector with great export potential. Consumer preferences and dietary habits have changed over the last decades in many countries. In the Republic of Korea, for example, between 1980 and 2003 the consumption of cereals has decreased from 195.1 to 142.1 Kg per capita per year, whereas there has been an increase in the consumption of meat (from 28.0 to 95.7 Kg/capita/y), fresh fruits (from 22.3 to 55.8 Kg/capita/y) and vegetables (from 120.3 to 145.5 Kg/capita/y).[9] This changing and growing demand provides significant opportunities for growth in exports in fresh and processed food products from the region.

51. This trend has come together with an increase in the number, complexity and stringency of environmental and health-related requirements for food products. Increased awareness of consumers on environmental issues has led to a growing demand for environmentally-friendly products, and major food safety crises have raised the attention of Governments, industries and the general public on consumer health and safety. As a result, requirements, both public and private, are developing beyond basic food safety with increasing pressure towards traceability and accredited certification.

52. Governments are putting in place comprehensive legislation to protect human, animal, plant health and the environment. Maximum Residue Levels (MRLs) for

[9] Il-Chyung Kwak, Trade and Environment Dimensions in the Food and Food Processing Industries in the Republic of Korea, presentation delivered at the Sub-regional workshop on the trade and environment dimensions in the food and food processing industries in North-East and South-East Asia, Jakarta, 26-27 July 2006.

pesticides, antibiotics and noxious substances are being developed for an increasing number of substances and are becoming more stringent, as scientific evidence grows and technology advancements permit more precise detection. Although legislative requirements are mainly related to requirements on the end products, there is a trend towards the control of health hazards throughout the life cycle of products, from production and processing to marketing. Hygiene regulations place in fact increased emphasis on the system of Hazard Analysis Critical Control Point (HACCP). This trend includes also the shift towards a "farm-to-fork" approach, with emerging legislation requiring traceability of animals, products and raw materials, as for example the EU Law on "General Principles and Requirements of Food " (EC R 178/02).

53. Mohanty's study highlighted that the food sector (including primary and processed food products) is subject to a high level of environment-related non-tariff measures (NTMs), as shown in annex in table 2. Except for a few chapters of the Harmonised System (HS), most of the product groups are subject to a high level of restrictions to gain market access in major industrialized countries on environmental grounds.

54. Countries in the region have experienced some challenges in meeting increasingly stringent food safety standards in main export markets. Chinese products have experienced several import restriction in major export markets. Seafood and fishery exports from several countries in the region have been affected by stringent requirements set by major export markets. Viet Nam, for example, has experienced several problems in exports of seafood to the EU and US markets between 2001-2005 due to high level of antibiotics and other substances. Similarly, the honey industry in Nepal has faced considerable challenges in complying with EU Directive 96/23 that requires a residue control programme for imports of products of animal origin, whereas Nepalese orthodox tea has been denied entry into Germany, due to non compliance with pesticides regulations. Often, there is a perception that NTMs are arbitrary barriers not based on solid scientific evidence. This was the case, for example, when the EU imposed a trade ban on *kava*, a traditional beverage and herbal remedy in Pacific Islands.[10]

55. At the same time, the private sector is setting standards that are often stricter than those imposed by Governments and that are aimed at protecting consumer health and safety and managing risk through supply chain management. GLOBALGAP (formerly EUREPGAP), for example, has developed a series of sector specific farm certification standards that go beyond food quality and address environmental and social aspects of production as well. Given the increasing predominance of supermarket chains and global food retailers, private sector standards, even though not mandatory, play an increasingly important role in gaining market entry in major export markets.

[10] Kava was banned by the EU because of concerns about its toxic effect on the liver. The Pacific Network on Globalization (PANG) has recently estimated the loss of revenues arising from the ban for Pacific Islands to be more than US$ 1 billion, and it is calling for the ban to be lifted.

56. Many countries in the Asia-Pacific region are not fully prepared to take up these global challenges and enter into the high value-added food trade while they continue to face major structural and infrastructural constraints.

57. Countries in the region generally lack awareness and information on prevailing standards in their major export markets. They also often lack the required infrastructure to comply with such standards such as accredited laboratories with up-to-date testing technologies, standardization bodies, and accredited bodies for certification and monitoring. When testing facilities and certification bodies do exist, they are often not recognized by the trading partners, forcing producers to have their activities inspected and certified by external parties in target markets, significantly increasing costs. Moreover, environmental and health-related regulations and standards differ from market to market, making compliance more difficult and costly for exporters. Mutual recognition and equivalence are the exception rather than the norm.

58. At the same time, as Asia-Pacific intensifies food production, in response to population growth and an increasing global consumer society, the region is confronted with a limited carrying capacity, posing serious challenges for the sustainability of the sector.

59. Unsustainable fishing practices have already led to the depletion of numerous fish stocks, and several more are under threat. In Cambodia, for example, freshwater fish is a key resource, but over fishing and unsustainable practices pose serious threats, prompting the Government to reduce the number of fishing areas.

60. Another source of declining sustainability is agricultural intensification. As food needs grow, Asia-Pacific has intensified its agricultural production, which increased by some 62 per cent from 1990-2002 against the global production growth of 27 per cent. Additional pressures come from increased fertilizer production and use and expansion of irrigation. Unsustainable agricultural practices have lead to a number of environmental problems, including land degradation, water contamination and shortage, loss of biodiversity, etc. Over exploitation of natural resources threatens the environment in many countries, including countries that have so far experienced limited environmental degradation, as Lao PDR.

61. According to the State of the Environment in Asia and the Pacific 2005 report[11], 60% of water resources are used for agriculture in 29 countries in the region, , with this figure increasing to more than 90% in other 15 countries. Proportion of irrigated areas expanded 25 times faster than the rest of the world. Energy content of food production has increased and emission of greenhouse gases from agriculture is also becoming significant. As the Asia-Pacific region is emerging as the global production centre, pollution generated from the production processes of the goods exported remains in the region, adding a burden to its already limited carrying capacity.

[11] ESCAP, 2006. *State of the Environment in Asia and the Pacific 2005: Economic Growth and Sustainability*, United Nations publication, Sales No. E.06.II.F.30 ISBN: 92-1-120487-9 (New York, United Nations)

62. In order to effectively address all these challenges, there is a need to develop sound and coherent policies that address both of these trade and environment dimensions. Designing policies to improve market access *vis-à-vis* environmental and health-requirements in export markets can provide an opportunity to look into the long-term sustainability of production in a specific sector and address domestic environmental concerns. Since environmental characteristics of products are increasingly influencing product quality, there is scope for designing policies that, by addressing environmental concerns, can improve the quality and the competitiveness of the produce.

63. The case of banned or restricted pesticides provides for a good example. Several countries in the region reported that farmers are still using banned pesticides, which make their way through their borders due to inadequate legal frameworks, weak import-control policies and institutions, or lack of resources for appropriate controls. This has not only resulted in environmental and health damage, but has also negatively affected exports, which have been detained due to the presence of residuals of such noxious pesticides. The experience in Asia-Pacific highlights also some good practices, including the following.

Policy Initiatives to Improve the Export Performance of Processed Food Products in China

64. In an effort to boost processed food exports, both the Chinese government and private sector have made consistent efforts to address health and environmental issues. The Government has assigned clearly defined roles and responsibilities among the various agencies, and has developed and upgraded the regulatory framework required to ensure food quality and environmental sustainability. In order to limit pesticide and veterinary drug residues, and environmental pollutants in processed food, inputs and imported intermediate products are being scrutinized. Moreover, the Ministry of Agriculture has been promoting the use of advanced technologies to reduce input of fertilizers, pesticides and growth hormones. An information system on food safety standards was set up, with 70 information stations located in 18 Chinese provinces. Laboratories to test environmental and health requirements were set up in several provinces and food producers were given training in the rational use of fertilizer, pesticide, veterinary drugs, additives and animal and plant hormones.

65. The food processing industry has experienced a process of vertical integration which has lead to the creation of so called “dragon-head enterprises”, which group farmers, food-processing enterprises and marketing agencies under different enterprise models, with the aim to increase quality and added-value. The “dragon-head enterprises” provide farmers in its group with high-quality inputs and advisory services on the rational use of pesticides and fertilizers, and agro-food products are processed and marketed under a uniform package and trade mark.

66. Furthermore, the Government has promoted three different certification schemes: (i) safe food, (ii) green food and (iii) organic food, with the latter mainly geared towards

exports. Each of the three systems set specific standards for food safety and environmental protection, with different degrees of stringency. This has allowed a large number of producers to obtain certification, according to their capabilities to meet the different standards. It has also enhanced the marketability of the products by providing brand image.

67. Food producers feared considerable challenges to arise from Japan's "Positive List System for Agricultural Chemical Residues in Food", which came into force in May 2006 and has greatly increased the testing requirements for maximum residues of agricultural chemicals in food. Chinese agriculture products managed, however, to meet the strict requirements and the qualified rate tested is 99.42% as compared to a 98.69% of US exported products to the Japanese market.[12]

R&D to address environmental issues in Sri Lanka's tea and coconut sectors

68. The tea sector is one of the key export sectors in Sri Lanka, and the Government has taken several measures to ensure the quality and competitiveness of the produce. Among these, worth highlighting is the support to local R&D, to address quality and environmental concerns. In an attempt to minimize MRLs in tea, the Sri Lanka Tea Research Institute has been investigating alternative methods, such as the biological control of pest and use of integrated pest management techniques. Moreover, the Institute has been charged by the Ministry of Environment with the task of developing cost effective alternatives to methyl bromide, currently used for soil fumigation in tea nurseries but hazardous to humans and animal, as well as ozone-depleting.

69. Similarly, in order to address environmental issues in the coconut sector, the National Engineering Research and Development Centre (NERD) has developed a cost effective and environmental friendly anaerobic granular system to treat coconut waste water. NERD has obtained a patent for this technology and will commercialize it. A full scale prototype of this system is being tested by the Industrial Service Bureau.

Improving the sustainability of the Palm Oil industry in Malaysia

70. The palm oil industry has been expanding considerably in the last few decades, and plays a key socio-economic role in Malaysia, which is the leading world producer with roughly 42% of total global production. In recent years, however, the industry has come under close scrutiny over health, social and environmental issues. Globally, the palm oil industry has been increasingly pressured by civil society over health-related issues, tropical rainforest destruction and loss of biodiversity, soil erosion, pollution, alienation of indigenous people from their land and social conflicts. The growing concern about environmental issues and health requirements has resulted in the introduction of increasingly stringent standards in international trade. The industry, therefore, has been under pressure to improve the environmental and sustainability dimensions of its operations in order to remain competitive in the international market place.

[12] Source: Interview with Official from the Ministry of Commerce of China, November 2007.

71. Malaysia has committed by policy to retain 43.6% of its land as natural forests. Therefore, further increase in production has to be through higher yields, through improved techniques and practices. The key issue was how to optimize oil palm cultivation and palm oil production in a way to achieve sustainable conditions that take into consideration the environment, local population and wildlife. Recognizing the need for institutional and government support given the relevance of the industry, three organisations[13] were set up to provide the necessary support for the improvement and development of the industry, and a comprehensive regulatory framework has been developed.

72. Moreover, the Malaysian palm oil industry has adopted and institutionalized good agricultural and best management practices on the estates, through a self initiated and regulated system. This includes the use of:

- Integrated Pest Management (IPM) to minimise the use of toxic pesticides through the promotion of beneficial plants, natural enemies and bio-controls like barn owls;
- Recycling and reuse of waste materials from palm oil mills as fertiliser material, thus minimising the demand for inorganic fertilisers, while maintaining the fertility of soils;
- Zero burning for land clearing and replanting;
- Planting of leguminous crops as cover to mitigate and minimise soil erosion;
- Terraced plantings and the construction of silt pits as a soil and conservation measure.

73. Besides adopting relevant international standards, such as HACCP, EUREPGAP or ISO standards, Malaysia has developed its own standards[14], and plays an active role in the Codex Alimentarius Commission and other international food safety standard setting fora.

Conclusions and recommendations

74. Global standards in the food and processed food industries are increasingly consumer driven and developed by private sector business, while national standards often differ substantially among countries and are becoming increasingly complex and stringent, and they are often perceived as barriers to trade. Developing a sustainable food industry that meets such standards is a knowledge-intensive and condition-sensitive process, which requires adequate time, resources and institutional support, as well as

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[13] The Malaysian Palm Oil Association (MPOA), the Malaysian Palm Oil Board (MPOB) and the Malaysian Palm Oil Council (MPOC).

[14] In 2005 the Food and Agricultural Industry Standards Committee (ISCA) developed the Malaysian Standard on Good Agricultural Practices (MS 1784:2005 Good Agricultural Practice Crop Commodities), generic in nature, applicable to all crop commodities, both food and non-food crops. The standard is intended for use in certification schemes to recognize and certify farms which adopt GAP in Malaysia. Based on the framework of the generic MS 1784:2005, GAP specific standards for 7 major crop commodities are being drafted by Technical Sub-Committees comprising experts. These crop commodities include oil palm, rubber, cocoa, pepper, herbs, fruits and vegetables and flowers and ornamentals.

collaboration among stakeholders. There is a need to develop a step-by-step market access strategy and carefully prioritize resources.

75. While governments regulate and negotiate, businesses do the actual producing, trading and polluting. In this regard, successful public-private partnerships which are based on effective dialogue and a clear division of complementary roles between government agencies and businesses are necessary. For instance, governments could rely on the certification and assurance processes laid down by private sector bodies while private standards often obviate the need for governments to interfere too much in this area. Public-private partnerships are also of particular importance in the financing of infrastructure for a competitive export sector, and for the promotion of principles of Corporate Social Responsibility (CSR).

76. Governments still have an important role to harmonize requirements, level the competitive playing field, improve consumer awareness, provide extension services and incentives to small-scale farmers and SMEs to meet initial investment and certification costs and help them integrate into regional and global supply chains, and balance public support with regard to research and development (R&D) and encourage partnerships in this area. Governments should also rationalize and strengthen national regulatory mechanisms and ensure that actual laws and regulations are duly implemented and enforced. Active consultation with the private sector and other stakeholders to formulate effective negotiation positions in multilateral, regional and bilateral trade agreements is also essential.

77. Having testing facilities and accredited bodies is a necessary but not sufficient condition in guaranteeing market entry. Well equipped laboratories also need skilled manpower, while accredited bodies need to be recognized by trading partners. Close cooperation and dialogue between the exporting and the importing country on an agency-to-agency basis is essential. Parallel business-to-business contacts may also facilitate the process. Regional cooperation should therefore be actively pursued in these areas.

78. Research and Development (R&D) plays an important role in any strategy to enhance export competitiveness and environmental sustainability and regional cooperation in this area should be strengthened. However, national and regional efforts and resources need to be targeted, and aim at responding to the real needs of food producers and processors. Work at the grassroots level and effective dialogue between stakeholders, including government, business, universities, NGOs and others, is necessary. Capacity building in terms of human resources and institutions should be provided to developing countries, especially for LDCs and Pacific Island States.

79. Countries of the region need to identify which are the requirements that apply to them and in which ways these will affect them. While information and data on market access requirements are abundantly available, lack of access to such information is often cited as a major constraint. Even more so is the ability to analyze this information and turn it into concrete and relevant knowledge. Regional cooperation could be instrumental in this regard.

80. Equivalence and mutual recognition would be appropriate frameworks to address differing requirements, and should be encouraged and promoted. These are, however, difficult to achieve in practice. Harmonization of standards and adoption of internationally agreed standards should also be pursued while countries should pay special consideration to the needs of developing countries with regard to the application of equivalence.

81. The development of regional standards could contribute to regional trade facilitation and should be actively promoted, especially in the absence of international standards and when the trade benefits from the adoption of such standards justify the considerable resources required to develop them.

82. The SPS and TBT Agreements of the WTO do not set standards but provide the guidelines, parameters and conditions for developing such standards with the purpose to enhance their predictability, transparency and harmonization and ensure that they do not act as hidden non-trade barriers. Countries should strive towards strengthening their capacity to meet and develop their own public standards in conformity with these agreements and existing global standards such as the Codex Alimentarius, HACCP, and ISO series.

83. In this regard, active participation in international standard setting is extremely important but requires considerable resources. Therefore, developing countries should prioritize efforts and identify sectors/products of key interest for which participation in international standard setting is strategic and worth investing and request technical assistance as appropriate for this purpose. While twinning arrangements with regional partners, as done at the ISO, would be an optimum solution, they may be difficult to develop in practice and hence, alternative modalities for regional cooperation may be more feasible.

84. A proper and comprehensive understanding of the environmental impacts of production and trade of food and processed food is essential to develop appropriate policies for this industry. Strategic and Environmental Impact Assessments are important tools in this regard, and should be simple and science-based and need to be recognized and effectively applied by relevant policy-making bodies.

85. At the national level, modalities and mechanisms need to be developed or strengthened to ensure mutual consistency and coherence of trade, environment, and agricultural policies, and promote effective coordination and cooperation among concerned government agencies and regulatory bodies at both central and local (i.e. state, provincial, municipal) levels in formulating and implementing such policies. Clear and distinct roles and responsibilities of concerned agencies need to be identified with a clear separation of functions for each agency.

86. Multilateral and bilateral financial and technical assistance is needed in order to overcome the constraints, but it should be demand-driven, properly coordinated and truly

responsive to the needs of developing countries, particularly LDCs and Pacific Island States. In this regard, better use of the existing mechanisms to meet trade and development aid needs could be made, in particular within the context of the "Aid for Trade" initiative duly incorporating principles of special and differential treatment for developing countries, especially LDCs and Pacific Island States. Developing countries in return should carefully identify assistance needs and develop specific proposals to address priority areas.

2.3 Lessons Learnt from Latin America and the Caribbean

87. In the context of economic globalization, Latin American and Caribbean countries face a new international order, highly interdependent and characterized by the incorporation of increasingly complex issues into development processes, such as global environmental concerns, sustainable and competitive pattern of growth, innovation, new technologies, social equity and institutional governance. However, issues related to trade liberalization and new ones, like those arising from environmental concerns are currently managed under separate and complex legal regimes that need to be integrated.

88. Sustainable development is a process that seeks an adequate balance between economic growth, environmental protection and social equity in the medium and long term horizons. A number of changes occurring in the international environment are relevant for a progressive movement toward sustainable development objectives in Latin American and Caribbean countries, and call for a more integral approach, recognizing the importance of trade rules in transmitting these changes.

89. It is quite reasonable to expect that a number of trade rules, such as investments and intellectual property rights are key for translating export growth into enhanced welfare gains that are not only spread equitably across society, but also lead to structural transformations allowing for an efficient and rational use of natural resources and ecosystems. In addition, developments in areas like foreign investment, innovation and technological development generate important challenges for sustainable development in all the countries of the region. These issues have become the critical factors that explain, in principle, not only the kind of international trade pattern that has emerged in Latin American and Caribbean countries, but also the available options and policy spaces for addressing challenges related to competitiveness, equity, institutional development and environmental protection..

90. For Latin American and Caribbean countries increasing trade flows is not sufficient to induce the needed structural changes or to bring about improvements in welfare. The majority of these countries show such features as a serious lack of connection between "modern" export sectors and the rest of the economy, a tendency towards the hypertrophy of an informal tertiary sector and towards social exclusion, leading to undesirable social polarization, and a growing specialization in the export of goods associated with potentially polluting activities. All these features need to be

addressed if their deep integration in the global economy is to be an instrument for sustainable development in those countries.

91. The following is a an illustrative list of goals for sustainable development – in the economic, social, environmental and political spheres – to which Latin American and Caribbean countries could aspire through their integration into the international economy.

92. In the economic sphere, the main development goal should be securing stable, long-term economic growth, based on sustained productivity increases. Four conditions are inherent to this goal:

- Securing stable growth from trade, in the short and long term horizons, including increasing resilience to (capacity to recover from) external shocks;
- Diversifying production and trade towards goods and services of ever increasing added value and knowledge intensity, and favouring knowledge spill-overs from export sectors to the whole economy;
- Reducing productivity and income differentials among regions, sectors and social groups; and
- Enhancing income and employment spill-overs from growth; i.e. improving the capacity of the economy to translate trade-led growth into more and better jobs and household income.

93. In the social sphere, goals may be summarised as expanding people's freedoms and opportunities and maximising social cohesion. Three objectives may be used to illustrate this goal:

- Substantially contributing to alleviating poverty and reducing inequality and social exclusion, including through creation of stable job sources and promoting networking of SMEs, cooperatives and micro-enterprises;
- Ensuring livelihood sustainability for disadvantaged groups (e.g. rural livelihoods) and access to basic goods and services for all people, particularly nutrition (food security), health and education, and environmental public goods (e.g. clean air and water); and
- Reducing gender disparities in the opportunities created by trade liberalization, market reforms, human capital creation and the enhancement of production capacities.

94. In the environmental sphere, the main objective could be expressed as using natural resources and the environment in a sustainable manner, preserving their value for the benefit of present and future generations. In practice, some environment-related goals that should be pursued within a trade-supported sustainable development strategy are:

- Guaranteeing that economic advantages based on natural resources can be enjoyed and enhanced in a sustainable manner by means of a rational management of natural-resource-based industries (e.g. physical and economic policies for conservation of natural resource endowments);
- Ensuring that achievements in export growth, productivity and diversification of the economy as well as improvements in consumption, are based on best practices to minimize negative externalities and favour environmental

sustainability (i.e. sustainable energy provision to support economic growth; environment-supportive trade policy instruments and technologies, infrastructures and productive processes); and
- Engaging in sustainable trade activities based on bio-diversity (bio-trade), while conserving biodiversity and eco-systems equilibrium by introducing economic incentives and appropriate environmental standards.

95. In the political sphere, the goals may be articulated as enhancing the legitimacy of trade and trade-related policies, by ensuring their accountability according to development benchmarks and increasing people's participation in the policy making process. Two lines of action should be put in place responding to these goals:
- Implementing monitoring processes to follow-up the outcomes of trade and trade related policies making use of sustainable development benchmarks; and
- Ensuring the effective participation of stakeholders in the processes of defining trade-supported strategies for sustainable development, and in monitoring the outcomes of their implementation

Making the trade negotiating perspectives coherent with the objective of supporting sustainable development strategies

96. Sustainable development challenges that countries face in their integration in global trade may be addressed by combining trade liberalization, which mainly influences the demand side, and other trade-supported strategies for sustainable development which essentially affect the supply side. Policy instruments and trade rules that may support (or hinder) the implementation of policies to address those challenges can be classified according to three broad dimensions:
- market access and fair treatment to developing country exports;
- policy spaces; and
- resources for development support.

97. By implementing policies in the supply and demand sides, which involves paying attention to the three mentioned dimensions of trade rules (and not only to market access), it is possible to strengthen the developmental value of trade policy and international trade negotiations. Increasing the attention on supply-side issues in negotiations, and complementing the traditional approach of "offensive" and "defensive" perspectives with one of "capabilities development" constitute concrete and practical recommendations in the line of ensuring the desired coherence.

The potential value of policies in the supply-side and the demand-side

98. An economic image of the interaction between policies used to implement trade liberalisation and trade-supported strategies, on the one hand, and the processes they influence, on the other, may be obtained by looking at the economy from the supply side and the demand side.

99. In the demand side individuals and social groups may benefit from using goods and services offered in the market place; i.e. consumption needs are satisfied, subject to constraints such as household income distribution.

100. In terms of potential for growth (dynamic perspective), in the demand side it is pertinent to respond to the question of how to absorb the increase in output, so that an exogenous impulse is given to the total demand of the economy. On the one hand we must look at how exports may be sustainably increased by achieving effective improvements in international market access, and by implementing export promotion and facilitation policies. On the other hand, we may consider substituting domestic production for imported goods and services, particularly aiming at increasing the net labour content of the country's trade balance.[15]

101. In terms of immediate (static) social objectives, when considering the implementation of trade-supported strategies for sustainable development in the demand side, it is relevant to consider how international trade and trade-supported policies may become instruments to enhance access to basic goods and services by all social groups (e.g. how these rules may contribute to defending rural livelihoods or to enhancing access to medicines by the poor).

102. In the supply side almost all dynamic considerations may be realised. Production structures may change and capabilities may be enhanced, creating conditions for diversification and opportunities for sustained increase in jobs creation and productivity. In this side we must look at how policies may help amplifying the capabilities to create goods and services that can be sold competitively in the domestic and foreign market, while creating more and better jobs and income sources, and generating conditions for a sustainable use of natural resources and the environment.

103. Such amplification may be made feasible by sustainably enhancing the quantity and quality of the supply of factors engaged in actual production, as well as the knowledge basis and the institutions supporting the whole set of processes, including the suitability of economic, social and environmental policy.[16]

104. In short terms, the greatest potential for sustainable development in economic, social and environmental terms can be addressed by promoting changes of structures and

[15] Actually, the domestic component of the increase in demand (growth in domestic demand), as it is based on real income growth, must be seen as the result of enlarging the output capacity and simultaneously creating an independent increase of the exogenous sources of demand, linked to international trade (either increasing exports and/or substituting imports).

[16] In this context, the term "Supply-side Constraints" include low labour productivity and structural constraints within the institutions to overcoming such restrictions (e.g. poor educational and health service systems); limited master of management know-how, lack of appropriate process technology and weakness in national innovation systems; scarcity of input-output linkages between exporting sectors and domestic productive units, mainly SMEs, implying insufficient upstream impacts of job creation and knowledge spillovers; low quality and limited coverage of infrastructure and logistical support resulting in poor connectivity to global markets (poor transportation and access to shipping infrastructure, telecommunications), and inappropriate macroeconomic policy frameworks leading to unstable exchange rates and high inflation.

improving capabilities in the supply-side, while the effects of intervening in the demand side may in some cases be more obvious in the short term. However, while the latter may contribute to immediate growth or to solving specific constraints, in general they will not trigger structural changes or serve to support sustained growth.

Three dimensions in which trade rules affect developing country capacities to implement trade-supported strategies for sustainable development

105. Sustainable development challenges and problems that developing countries face in their integration in global trade, may be classified according to three broad dimensions in which policy instruments and trade rules affect these problems and support or hinder the implementation of policies to address them. The first two refer to policies aimed at achieving effective access to trade opportunities and to improving systemic competitiveness as well as social and environmental conditions. The third dimension refers to net resource inflows and assistance that developing countries may need to relieve major supply-side constraints, undertake institutional reform and implement institutional capacity building.

106. In the Market Access and Fair-trade dimension, developing countries seek improved, stable and predictable entry to foreign markets through traditional market access mechanisms (e.g. tariff treatment, customs valuation, rules of origin, import licensing procedures, etc.), as well as solutions to the negative impacts that third countries' trade policies may have on limiting their exports (e.g. anti-dumping and countervailing measures; misuse of technical or health standards; or export subsidies affecting exports of goods and services from developing countries, etc.).

107. In the Space for Sustainable Development Policies (Policy Space) dimension, developing countries should be able to implement actions for productive sector development, competitiveness and vulnerability reduction, including through strategies based on creating technological capacities or fostering complementarities and linkages; and target trade-supported policies for competitiveness in environmental or social/equity goals. Opportunities for implementing these policies might be limited by current WTO (i.e. "behind the border measures") and other international rules.

108. It is more or less evident that developing countries might deserve support from the international trade regimes in the form of S&DT instruments providing additional flexibilities or "policy space". However, it must be reiterated that using the 'policy space' approach should not imply a completely open-ended flexibility or 'policy space' in S&DT, as a balance must clearly be struck between the flexibilities required and the need to maintain the inherent value of a rules-based trading system.

109. Lastly, mechanisms in the third dimension (External Resources and Assistance for Development Support) encompass those ensuring access for developing countries to net resource transfers that may contribute to financing the costs of institutional adjustments and enhancement of capacities, including overcoming the most pressing supply-side

constraints and coping with the needs for investing in the enhancement of resilience to disasters in small vulnerable economies.

110. Financial constraints may prevent developing countries from implementing suitable policies and institutional reforms and would require support from outside the multilateral trading system, e.g. from international financial institutions or donor countries. The ongoing discussion on “Aid for Trade” is an expression of this concept. In this context, it is important to emphasize that these additional resources should not be subject to policy conditionalities that would undermine the policy space objectives of developing countries.

2.4 Lessons Learnt from Western Asia

111. Project activities conducted in West Asia were implemented within the framework of the Program on Trade and Environment Capacity Building in the Arab Region, which is a regional initiative adopted by resolution of the League of Arab States Council for Arab Ministers Responsible for the Environment (CAMRE) in 2003 and coordinated by a Joint Secretariat comprised of the CAMRE Technical Secretariat ESCWA and UNEP/ROWA. The topics for analysis were identified through a consultative process with ESCWA Member States and members of the League of Arab States during a series of regional and national meetings, which allowed for the preparation and deliberation of two sets of case studies. The first examines trade and environment aspects affecting the agro-food and fisheries sectors in the region, while the second examines trade in environmental goods and services in the ESCWA and Arab regions and the implications of liberalising trade in environmental goods based on several proposals suggesting how to define and classify different types of environmental goods.

Trade and Environment Dimensions of the Agro-food and Fisheries Sectors in the Arab Region

112. The agro-food sector in the Arab region has become more sophisticated and diversified over the last decade. An increasing amount of Arab exports are now processed goods, rather than primary agricultural commodities as has been the case in the past. Furthermore, there are new leaders among Arab exporting countries in the sector. Morocco is the largest exporter of primary agro-food products from the region (over US$1 billion in 2004), and the United Arab Emirates is the largest exporter of processed agro-food products (US$800 million in 2004), albeit these are mostly attributed to re-exports. Excluding re-exports, Saudi Arabia, Tunisia, the Syrian Arab Republic and Egypt are the largest exporters of agro-food products from the region (in descending order), with the share of processed goods from Saudia Arabia, Tunisia and Egypt representing more than fifty percent of their agro-food exports.

113. The direction of trade of Arab agro-food products is also gradually changing. While inter-Arab trade remains important for some countries (especially for Lebanon, Jordan, the Syrian Arab Republic and Yemen), agro-food exports (primary and processed

goods) are increasingly penetrating markets outside the Arab region and outside traditional markets (e.g., Europe and the United States). For instance, China is emerging as an importer of primary and processed agro-food products for some countries, such as Algeria, Egypt, Mauritania, Morocco, the Syrian Arab Republic and Yemen.

114. In the fisheries sector, the direction and value of Arab fishery exports also reveals penetration into new markets, as well as the dominance of imports from Southern countries. For instance, while inter-regional Arab fish exports accounted for $131 million in 2004, $217 million worth of fish products were exported to Japan and $21 million to China, which these figures expected to grow. For Morocco – the largest producer of fish in the region – the European Union continues to be the main destination of its exports. However, Oman and Yemen are satisfying growing markets in the Arab region and exporting more the East Asia. Interesting, while Egypt is the second largest producer of fish in the region, it is also the largest importer, with most of its imports sourced from Thailand and the Netherlands. Saudi Arabia, the second largest importer of fish products also imports largely from Thailand (21 percent of imports in 2004), but a third of its imports come from Yemen.

115. Trade and environment issues affecting the region have traditionally focused on primary agricultural production and constraints related to water scarcity and water quality are of priority concern for the Arab region. This has led some countries to engage in water reuse to irrigate agricultural products, which in turn interrupted agricultural exports between some Arab countries for a period due to non-compliance with SPS measures. The effects on land degradation associated with agricultural intensification as well as increased fertilizer and pesticide use in some countries has also been a problem, particularly compliance with EU maximum residue limits (MRLs) for certain pesticides that were not met due to excessive application and improper harvesting methods. The burning of agricultural waste also continues to be a transboundary problem for the region, as field crop residues that fuel primary commodity exports are burned (e.g., sugar cane waste in Egypt and Sudan) that contributes to climate change. The use of genetically modified organisms (GMOs) in agriculture was also the subject of intensive debate in the region prior to the issue being formally raised before the WTO.

116. However, changing market realities present a new set of opportunities and challenges for the agro-food and fisheries sectors in the region. While regulatory standards adopted by governments are preventing some Arab exports from accessing new markets, voluntary measures being imposed by private industry are also emerging as a concern. Consumer preferences in organic foods are also increasing, although the market in the Arab region remains small in terms of production and consumption. Egypt, Morocco and Tunisia are the producers of organic goods in the region, however there are only six companies in the region certified under GlobalGap (formerly EurepGap): three in Egypt and three in Morocco.

117. The expansion of processed agro-food production and an export-oriented fisheries sector have also introduced new standards, technical regulations, environmental controls and conformity assessment requirements on producers seeking to access new markets as

well as export a more diversified range of products. Traceability reporting requirements, packaging and labeling of processed foods have emerged as challenges that regional food processors increasingly face. Providing easier access to information regarding regulatory and voluntary requirements in destination markets, as well as providing the conformity assessment infrastructure to test for compliance with these measures are thus essential for assist small and large food processors to access foreign markets.

118. In this regard, the studies and consultations reveal four sets of lessons that provide a framework for examining trade and environment considerations facing the agro-food and fisheries sectors in the region. This are related to: (a) market access constraints associated with compliance with SPS and TBT related measures; (b) the cost of conformity assessment and limited institutional capacity in this area; (c) emerging trends towards engagement in regional and international supply chains; and (d) the need to view trade and environment issues within an integrated sustainable development framework. In doing so it is important not only to examine trade and environment issues from the perspective of promoting exports, but also with a view towards protecting domestic consumers from unwanted imports and to consider the implications of more stringent standards and import competition on small and medium producers. This can only be possible through integrated sustainable development planning and improved policy coordination and dialogue between the relevant stakeholders. The following elaborations of these points are largely taken from the regional and country case studies conducted on the fisheries sector.

119. Compliance with SPS measures and TBT associated requirements in traditional export markets continue to present a challenge for most agro-food and fisheries producers in the region. For example, the EU and US impose stringent HAACP requirements in fish production and monitor producers through on-site inspections and by testing final products. One success story emerging from the Arab region is found in the response of the government and the private sector to the EU ban on its fish exports from Oman in 1998 due to food safety concerns. The incident represented a turning point for the industry and triggering Omani fish producers to upgrade their processing plants and establish HACCP-compliant systems in conformity with international standards. Targeted investments in modern production and process technologies, enhanced technical capacity and improved infrastructure at fish landing sites served to improve the competitiveness of the fisheries industry, which was able to regain access to the EU market less than one year after the ban was imposed.

120. Environmental and health consideration must be integrated throughout the production value chain – from sea to final sale – so as to ensure that products and processes comply with measures required in foreign markets. The scale and scope of investment needed to improve fish quality and demonstrate compliance with foreign standards can be significant. For instance, the estimated cost to establish a fish quality assurance laboratory in Yemen could reach $250,000.[17] For fish exports to Europe, such facilities are needed in order to conduct mandatory testing of exports at the source, rather

[17] In Lebanon, a food quality testing laboratory is estimated to cost over $540,000 to build and operate for a year.

than at the point of entry. Ice-making factories and refrigeration - which are energy-intensive activities - are also needed at strategic points along the coastline in order to preserve fish for longer durations, particularly during the long and hot summers that characterize the region.

121. Integrated sustainable development planning is also needed to ensure the mutual supportiveness of trade and environment objectives. Traces of heavy metals (mercury, cadmium, lead), use of colorants and the decomposition of fish are among the chief causes of detentions of fish export from Arab countries to markets outside the region. While the source of some of these problems may be inadequate compliance with sanitary measures, increased trade and shipping of goods through water bodies surrounding the Arab region is increasing the concentration and range of marine pollutants, which are being absorbed by regional fish stocks. Effluent emitted from heavy industries based in industrial zones along the Arab coast could present another problem if mitigation measures are not incorporated into national development plans from the onset. The environmental effects of trade, transport and globalization thus have important implications for the regional and global fish trade.

122. Over-fishing is another trade-related challenge affecting the potential of the industry to expand in the Arab region. While some progress has been made in applying export restrictions for certain endangered and high-value species during breading seasons, some developing countries must still strike the balance between national interests involving the protection of fish stocks compared to the potential income that can be generated from selling fishing licenses to large foreign vessels. Sufficient funds must also be allocated to research institutes that can support the monitoring of fish stocks so as to inform decision-making on sustainable fisheries management. New opportunities presented by aquaculture might also be a way to stem the depletion of fishery resources, while still expanding exports.

123. The fisheries sector is also an important source of employment and income generation for poor coastal communities in many Arab countries, whether directly engaged in the industry or in associated activities at the input (e.g. boat manufacturing, baits, nets, etc.) or the output (gutting, slicing, freezing, canning, transport, etc.) stages of production. In addition, fish are an important source of nutrition. Indeed, figures for apparent fish consumption indicate a worldwide fish consumption of 16 kg per person per year, reaching around 30 kg per person per year in industrialized countries. In the Arab countries, the average yearly consumption is nearly 10 kg per person, however, the role of fish in national diets varies considerably between countries, with figures as high as 25 kg in Oman and the United Arab Emirates, and as low as 2 kg in Syria, Sudan and Somalia. Anecdotal evidence indicates, however, that as fish exports become an increasingly profitable enterprise, the price of fish in the local market is increasingly. As such, lower and middle income communities in fish-producing developing countries are switching from fish to livestock, which is changing traditional diets and local market dynamics.

124. It is also interesting to take note as an emerging trend that domestic production and processing of agro-food and fisheries products is also changing with supply chains emerging at various levels. Food processors in the region are no longer producing all the inputs alone, finding it more cost-effective to outsource. This has resulted in the multiplication of sub-contracting and supply chain arrangements within the Arab region at the local and inter-regional level. As food conglomerates turn to local and regional suppliers of primary inputs for the processed goods, they need to record the source of their inputs in order to comply with traceability requirements and to ensure that these inputs do not impede the access of this final products to markets abroad and thus comply with SPS measures. This in turn provides opportunities for small and medium sized suppliers of primary inputs that will become willing to invest in more sophisticated food safety systems when guaranteed a buyer for their final products.

125. For instance, Egypt is home to some of the largest number of food companies in the Arab region, with nearly thirty percent of the top 1,000 Arab food companies (in terms of market capitalization) based in Egypt. Morocco, Jordan, Kuwait and Saudi Arabia also have large food conglomerates producing in the local market. The livestock and dairy industry in Lebanon has also dependent on outsourcing arrangements during its operations. Accordingly, as these firms expand and as they require additional inputs from local, national and international sources, more stringent monitoring and testing of compliance with environment and health requirements will be imposed by producers of processed foods in the Arab region. When complemented by a strengthen regulatory system for standards setting, this will also ensure that local markets are also supplied with products in compliance with adequate standards for protecting local consumers.

126. Governmental and non-governmental institutions in the Arab region have a pivotal role to play in increasing market access for agro-food and fish exports from the region, enhancing their competitiveness in foreign markets and doing this with a view towards advancing sustainable development goals. A host of regional organizations are currently mandated to work on agriculture, agro-food, and the fisheries industry in the Arab region. Through improved coordination between these institutions and improved understanding of the trade and environmental dimensions of the fisheries industry, coherent sustainable development strategies can be formulated at the national and regional levels.

The Liberalisation of Trade in Environmental Goods and Services in the ESCWA and Arab Regions

127. In the ESCWA and wider Arab region, increasing economic and demographic pressures are increasing demand for environmental services and the goods needed to perform them. The region has experienced significant economic growth over the past decade with economic output nearly doubling. And as productive capacities have grown, so have negative environmental impacts associated with larger scale production including air pollution, water pollution and pressures on land and coastal resources. At the same time, increased population growth and density in urban areas have introduced new pressures and challenges for water treatment and distribution, solid waste disposal and

electricity provision, while many rural and remote areas throughout the region remain outside of service networks or do not receive regular or reliable access to energy and environmental services. Citizens' demand for improved environmental conditions and services at home and in the workplace has also risen among an increasingly affluent and educated population. Increasingly aware of environmental problems and related health threats, they are also seeking to purchase goods and services of higher environmental quality and performance.

128. The region's policymakers increasingly recognize the need to sustainably address environmental issues, and governments and the private sector are more intensively employing environmental goods and services (EGS) in order to improve the quality of life in the region. In 2004 the regional EGS market was estimated to be valued at US$9.7 billion (i.e., about 1 percent of regional GDP), with US$4.4 billion spent on environmental goods and US$5.3 billion on environmental services. Most EGS demand in the Middle East is for water and solid waste services, as well as for environmental remediation and clean-up services for the oil and gas industry. Studies suggest that regional EGS market demand met by domestic supply to be slightly greater than 70 percent. This translates into some 30 percent of EGS demand, or about US$3 billion annually, being met through imports of both environmental goods and services.

129. At the current time, with growing demand, many countries in the Arab region are considering to further open their domestic EGS markets multilaterally through the WTO Doha Round of negotiations to reduce or, as appropriate, eliminate tariff and non-tariff barriers to environmental goods and services. Environmental services comprise a wide range of activities aimed at managing environmental resources, and environmental goods encompass products and technologies required to perform these services. However, in the absence of established definitions, negotiators have been unable to agree on a boundary for EGS. Some WTO Members seeking to liberalize a wide set of services and goods prefer a broad definition, while others seeking to limit its scope seek a more narrow definition.

130. Negotiations on environmental goods have been further complicated by the introduction of a second class of goods known as environmentally preferable products (EPPs). Unlike other environmental goods, EPPs are not necessarily used for environmental purposes but include industrial and consumer goods whose production, end-use and/or disposal have positive environmental characteristics relative to similar substitute goods. In addition, there are several technical problems which make negotiations on environmental goods difficult. One involves the *multiple-use* of most environmental goods. Many members seek to limit liberalisation to environmental goods only when they are demonstrably destined for an environmental use. Another issue concerns the *relativity* of environmental goods; environmental goods today may become obsolete in the future as new products and technologies with better environmental performance are developed. These and other key EGS negotiating issues are fully examined in the study.

131. In order to define both national and regional strategies for the WTO negotiations on environmental goods and services, Arab countries need to assess the status of current and projected demand of environmental services and corresponding supply capacities for services provision and the production of environmental goods. On the basis of national economic, social, environmental and developmental objectives and circumstances, governments, in consultation with stakeholders, must decide whether, how and when EGS trade liberalisation should be pursued. Issues to be considered include: the privatisation of state-owned enterprises in the sector; forward and backward linkages of the sector; potential synergies between liberalisation in environmental goods and services; prospects of attracting foreign direct investment (FDI); opportunities for the transfer of technologies and skills; tariff revenue loss associated with EGS liberalisation; and the effect of liberalisation on SMEs and national employment. If carefully implemented by national authorities within a supportive national policy framework, the liberalisation process can deliver development gains.

132. When liberalising environmental services, national measures are needed to: ensure that local content, local employment and universal access objectives are met; gradually sequence privatisation and trade liberalisation to reduce the impact of economic adjustment; and effectively regulate competition. Many countries in the region are ARLeady meeting increased environmental services demand through foreign supply options, particularly in the Gulf countries which have liberalised environmental services under the WTO GATS agreement. In most cases, foreign participation has occurred in their environmental services sectors through joint-ventures and BOTs, attracting both foreign and domestic investment and allowing for technology and knowledge transfer in the water and solid waste sectors. However, in other Arab countries, more limited market openings through concessions and management contracts have been less successful.

133. Analyses of trade flows and tariff protection in environmental goods are an integral part of the study providing insights on the implications of trade liberalisation for Arab countries. Several 'lists' of environmental goods are examined, including the OECD and APEC lists of environmental goods used to perform environmental services that have been formally proposed as liberalisation candidates in the WTO negotiations [O+A list]; a list of selected EPPs that have been discussed, and proposed in part, in negotiations [EPP-Core list]; and five lists of environmental goods defined in the Arab Reference List (ARL) developed by the Technical Secretariat of the Council of Arab Ministers Responsible for the Environment (CAMRE) of the League of Arab States [ARL I through V]. The ARL contains many goods from the first two proposed categories of environment goals in addition to others. These ARL groupings are designed to guide Arab countries in their preparation of national lists of environmental goods.

Arab Reference List
Proposed classification of groups of environmental goods for Arab Countries

I. Primary environmental goods in the Arab countries having high priority, to be added to the list of environmental goods during the first phase of negotiations

II. Primary environmental goods for which custom tariff is to be gradually reduced according to the needs of developmental programs and the economic situation in the Arab countries

III. Supplementary environmental goods in developing Arab countries (oil-producing, Mashreq and Maghreb countries) which are of limited environmental use in comparison with other uses

IV. Supplementary environmental goods in least developed Arab countries, the use of which takes into account the compliance with international health and environment standards

V. Negative list of environmental goods in the Arab countries that should not be subject to commitments of the general agreement on trade in goods due to environmental, economic and technical reasons that should prevent liberalization of their trade

* The ARL Guidelines were developed by the CAMRE Technical Secretariat at the League of Arab States.

134. Results show that for most environmental goods (EGs), both individually and as a group the Arab countries have relatively large trade deficits. For each country, however, there are some products in each of the product groups analysed for which they exhibit net exports. For some EGs, many Arab countries have substantial exports, particularly in mineral and chemical products on the O+A and ARL III lists. For instance, for various petroleum and natural gas products on these lists, Bahrain, Kuwait, Qatar and Saudi Arabia are major world exporters. In general, the oil exporting countries exhibit large trade surpluses on the ARL III list which contains a range of petroleum based products. There are also various natural products derived from natural fibres and vegetable derivatives on the EPP and ARL lists for which Egypt, Morocco, Sudan, Tunisia and Yemen have significant export potential. Yet for many manufactured goods on the O+A, ARL I and ARL II lists, only Egypt, Jordan and Lebanon report significant exports.

135. A focus on overall trade balances for the product groups alone fails to take into account many dynamic gains – including through linkages with the environmental services sector – that can be augmented through trade liberalisation of EGs for which countries in the region currently exhibit trade deficits. For some of these EGs, for example, Arab countries have high export growth rates, i.e., growing faster than world trade, and thus these EGs represent dynamic products. Appropriately designed, trade liberalisation could allow the Arab countries to significantly expand their production and export of these ‘dynamic’ EGs and thus promote increased industrial diversification of their economies. More detailed analyses of trade flows at the national level are needed to

identify dynamic EG exports and opportunities enhancing supply capacities in related product areas.

136. However, aside from the potential benefits of EGS liberalisation, there are undeniably potential losses that can be anticipated. Inefficient regional suppliers of environmental services and producers of environmental goods could collapse due to import competition. Governments would also experience tariff revenue declines. The latter are a major cost of EG trade liberalisation and represent an immediate and direct impact that is quantifiable. The study estimates that under tariff elimination on the ARL and O+A lists, Arab countries' total tariff revenues will decline between 5 to 10 percent. Most developing countries, including the Arab countries, recognise that tariff revenue losses associated with EGS liberalisation will be significant. They further note that there are few goods of export interest on the OECD and APEC lists for which tariff revenue losses would be offset by increased exports arising from tariff reductions in other countries. A negotiating strategy should thus aim at introducing EGs for which they have export interests and demonstrated export capacity into an eventual negotiated WTO list of EGs scheduled for tariff reduction. Countries can also draw upon existing lists of environmental goods, including the OPEC and APEC lists (O+A) and lists identifying environmentally preferred products, to identify regional and national specializations and products of interest and seek to make commitments only on such a modified list.

137. The ARL I list has essentially achieved the latter objective of Arab countries, and in doing so has reduced tariff loss revenue for Arab countries by some 20 percent relative to O+A liberalisation. However, the ARL list does not sufficiently advance the first objective of introduce few goods of export interest to the Arab countries. A successful approach to negotiations could include revising the ARL list so as to consolidate it into a single list that best promotes regional trade and development interests. Through more active participation in the WTO negotiations, Arab countries should also aim to seize opportunities to capture development gains from trade liberalisation in environmental goods and services, and importantly, to build synergies between these two liberalisation processes.

III. CONCLUSIONS

- Trade liberalization does not necessarily to lead sustainable development. Support measures, together with coherent policies, are needed in order to achieve sustainable development goals.
- Environmental requirements – both mandatory and voluntary – have been found to adversely impact exports from developing countries. Those most affected are small producers. Certain countries, such as least developed countries and small island developing states, are especially vulnerable.
- Trade liberalization in Environmental Goods and Services (EGS) presents opportunities for developing countries. These should be measured based on national capacities to be suppliers of EGS for domestic and international markets, including a potential role for SMEs. Complementarities among major sectors of EGS exist and there are opportunities for South-South trade.
- The environmental impacts of trade should be viewed from the perspective of both exports and imports. Increasing specialization in environmentally sensitive industries due to trade liberalization is generating additional pressure on the environment. Imports of second-hand and low quality goods presents multiple problems associated with threats to environment, health and safety for local consumers and challenges associated with the disposal of waste generated from these short-lived products.
- Trade and environment policy-making should be set within the framework of sustainable development strategies. Understanding the interactions between economic, social and environmental impacts of trade policies rather than looking at one issue in isolation from another is necessary for ensuring policy coherence.

Annexes

Table 1: Importance of agricultural exports in selected Asia-Pacific countries

(per cent)

Country	Share of Agricultural Exports in GDP		Share of Food Exports in Total Agricultural Exports		Share of Processed Food Exports in Total Food Exports	
	1989-1991	2004	1989-1991	2004	1989-1991	2004
South Asia						
Afghanistan	na	na	62.99	na	77.17	na
Bangladesh	0.55	0.20	11.98	20.80	9.24	41.30
Bhutan	4.09	1.64	88.43	56.15	23.27	63.94
India	1.08	1.21	38.12	63.85	71.97	65.28
Iran	0.65	1.03	77.23	89.28	8.13	31.06
Nepal	1.64	1.54	84.27	49.32	16.41	72.07
Pakistan	2.34	1.46	37.65	81.20	82.45	80.95
Sri Lanka	7.00	6.09	17.59	18.07	62.40	59.62
Turkey	2.37	2.60	74.08	83.66	59.85	76.76
South-East and North-East Asia						
Brunei	na	na	75.02	45.27	36.49	59.22
Cambodia	1.65	1.23	na	23.51	na	36.44
China	2.57	1.09	53.21	65.50	56.89	65.83
Indonesia	2.71	4.77	33.81	62.39	70.94	87.48
Korea, DPR	0.69	0.2	47.76	58.17	34.37	0.89
Lao PDR	3.72	0.93	61.90	33.85	na	6.56
Malaysia	9.90	10.26	65.90	73.16	84.91	95.53
Mongolia	11.61	5.39	58.30	29.57	2.08	28.29
Myanmar	na	Na	86.84	90.17	33.48	9.71
Philippines	2.23	2.29	80.56	81.22	79.76	74.39
Singapore	6.11	2.93	54.57	50.08	76.87	90.37
Thailand	7.29	7.97	61.38	60.93	85.84	92.57
Viet Nam	4.43	8.06	69.30	55.18	79.00	86.29
Pacific Countries						
Fiji	15.20	11.24	97.32	79.66	96.46	90.26
French Polynesia	0.20	0.64	60.92	76.88	78.42	88.30
New Caledonia	0.07	0.11	2.25	66.99	na	38.94
Papua New Guinea	11.20	11.47	46.07	73.07	63.10	65.02
Samoa	4.61	2.19	89.46	94.93	64.20	87.55
Solomon Islands	na	na	90.05	97.47	73.13	76.65
Tonga	7.32	8.55	98.33	87.82	7.10	6.64
Vanuatu	6.73	9.26	89.68	91.06	80.20	92.70

Source: FAO (2006), *Statistical Yearbook 2005/2006*, FAO, Rome. na – data not available

Table 2: Structure of Food Products subject to Environment-related Trade Measures: by HS Chapter

(Tariff lines at 6-Digit HS)

HS Chapter	Description of HS Chapters	No of HS Lines Subject to Env trade measures	Total Tariff Lines	NTM Frequency Ratio (per cent)
1	Live Animals	17	18	94.4
2	Meat and edible meat offal	53	63	84.1
3	Fish & crustaceans, molluscs	87	87	100.0
4	Diary produce: birds, eggs	27	28	96.4
7	Edible vegetables & certain roots	56	57	98.2
8	Edible fruits & nuts: peel or melon	55	59	93.2
9	Coffee, tea, mate and spices	32	34	94.1
10	Cereals	16	16	100.0
11	Products of the milling industry	27	27	100.0
12	Oil seeds and oleaginous fruits	28	28	100.0
15	Animal or vegetable fats & oils	45	50	90.0
16	Preparations of meat and fish	26	26	100.0
17	Sugars and sugar confectionery	16	17	94.1
18	Cocoa & cocoa preparations	11	11	100.0
19	Prep. of cereals, floor, starch, etc.	17	17	100.0
20	Prep. of vegetables, fruit, nuts, etc.	44	45	97.8
21	Miscellaneous edible preparations	16	17	94.1
22	Beverages, spirits & vinegar	20	21	95.2
23	Residues & waste from food industries	25	25	100.0
24	Tobacco & manufactured tobacco	7	7	100.0

Source: Mohanty, regional study, based on UNCTAD and the World Bank, TRAINS/WITS (World Integrated Trade Solution); OECD, 2001; and Athukorala and Jaysuriya, 2005.