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TRADE, ENVIRONMENT AND DEVELOPMENT

Background note by the UNCTAD secretariat

Executive summary

The trade and environment debate covers a wide range of issues. One concerns the effects of environmental requirements on market access and competitiveness, in particular for developing countries. The UNCTAD Expert Meeting on Environmental Requirements and International Trade (October 2002) showed that environmental and health requirements play an increasingly important role in the international market place. At the same time, demand for environmentally preferable products (EPPs) may create new trading opportunities for developing countries. This report first examines trends in environmental and health requirements, focusing on four sectors: food and other agricultural products; certified forestry products; textiles; and electronics. It examines possible implications for developing countries and reviews national experiences in dealing with them. It then summarizes constraints faced by developing countries and proposes measures to take these into account in the process of standard setting, to strengthen the capacities in developing countries to respond to the above-mentioned requirements and to assist them in adopting proactive approaches. The report makes linkages with the debate on environmental goods and services (EGS). Developing the EGS sector in developing countries enhances their capacity to meet environmental requirements and become providers in some sub-sectors. The World Summit on Sustainable Development (WSSD) called for market-based instruments to create markets for environmentally preferable goods and services. Steps could be taken, in particular in the non-tariff area, to facilitate trade in EPPs from developing countries. Science, technology and innovation also play a key role in enhancing developing countries' capacities to respond to environmental requirements. The report suggests a number of issues that the Commission may wish to address with regard to possible follow-up to some of the suggestions made at the Expert Meeting, for example UNCTAD contributions to the WTO post-Doha work programme, particularly regarding capacity building, and to the implementation of WSSD outcomes.

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INTRODUCTION

1. The Commission on Trade in Goods and Services, and Commodities, decided at its sixth session, to include the item "Trade, environment and development" in the agenda of its seventh session. This topic covers a wide range of issues such as the relationship between trade and environmental regimes, the effects of environmental measures on trade, trade-related intellectual property rights, environmental goods and services (EGS), and the sustainable development implications of trade liberalization. In accordance with its mandate, UNCTAD has carried out work on the full spectrum of trade, environment and development issues. The Ministerial Declaration of the World Trade Organization (WTO) adopted at Doha calls for immediate negotiations on certain environmental issues and instructs the WTO Committee on Trade and Environment (CTE) to pursue its work on all items on its agenda, giving particular attention to certain specific issues. The CTE will have to "report to the Fifth Session of the Ministerial Conference, and make recommendations, where appropriate, with respect to future action, including the desirability of negotiations".¹ Trade issues were also included in the Plan of Implementation adopted by the World Summit on Sustainable Development (WSSD). Furthermore, trade and environment issues have become increasingly important in the context of regional negotiations and national development policies.

2. This report focuses on the broad relationship between environmental requirements, market access and competitiveness. As countries seek to enhance environmental protection and promote sustainable development, environmental requirements are becoming more frequent and more stringent, including in the context of international trade. There is a need to ensure that this does not have unnecessary adverse effects on developing countries' exports and that environmental standards are not used as a disguised form of protectionism. Even legitimate environmental requirements may have implications for market access and market entry for products from developing countries. Therefore, in the process of developing and implementing new environmental standards, possible trade and development implications for developing countries need to be taken into account. In addition, the Bangkok Plan of Action calls for the identification of policies to address major constraints faced by many developing countries in responding to environmental challenges, such as lack of technical, financial, institutional and supply capacities.² Similarly, trade-induced adjustments in domestic environmental standards may have beneficial effects for developing countries.³

3. The effects of environmental measures on market access for products from developing countries, in particular the least developed countries (LDCs), are being addressed

¹ Doha Ministerial Declaration, paragraph 32. The Fifth Session of the WTO Ministerial Conference is scheduled to take place in Cancún, Mexico, in September 2003.

² Plan of Action, Tenth Session of UNCTAD (TD/368), paragraph 144.

³ Standards that are appropriate for local environmental and developmental conditions may result in greater resource efficiency, higher occupational safety, improved health conditions and less environmental pollution. However, the need to adjust to stringent environmental requirements to maintain export markets may have socio-economic implications, in particular in LDCs. Standards that are particularly difficult to meet for SMEs may cause changes in production structures. "Environmental requirements and international trade", (TD/B/COM.1/EM.19/2), 25 July 2002.

in the WTO post-Doha work programme. The issues examined in this report are directly relevant to discussions in the CTE and may provide inputs to the work of the WTO Committees on Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) Measures, and the Working Group on Trade and Transfer of Technology, as well as to the negotiations on EGS.

4. Environmental requirements involve issues of market *access* and market *entry*. Environmental *regulations* deny market access to products that are not in compliance. Many environmental requirements, however, are in the form of *voluntary* and *private sector* standards. In a number of sectors, environmental and health requirements are increasingly becoming an integral part of product quality. Non-compliance may imply that producers can no longer realize average market prices and lose market shares.

5. This report draws on the results of and information presented at the *Expert Meeting on Environmental Requirements and International Trade*, held in Geneva from 2 to 4 October 2002, the outcome of which is contained in the meeting's report (TD/B/COM.1/EM.19/3),⁴ and on additional UNCTAD secretariat research in related areas. It also provides further analysis of a number of ideas and initiatives presented at the Expert Meeting and other forums. Furthermore, it briefly describes some related UNCTAD capacity-building activities and follow-up to the WSSD.

I. TRENDS IN ENVIRONMENTAL REQUIREMENTS

A. Definitions

6. Environmental requirements take the form of product standards and regulations, mandatory and voluntary labelling, packaging requirements, certification requirements and codes set by the private sector, as well as buyers' requirements and supply-chain management. There are few international standards for environmental regulations.⁵

7. Conceptually, environment- and health-related requirements are different. In practice, however, it can be difficult to distinguish between the two, because meeting health standards in the consuming countries often requires changes in process and production methods (PPMs) and environmental policies in exporting countries. In other words, health concerns in consuming countries are often tied to environment-related problems in exporting countries. Furthermore, developing countries' concerns relate to the whole range of environmental and health requirements and adjustment problems may be similar. Against this background, developing country papers presented at the Expert Meeting also covered issues such as Hazard Analysis Critical Control Points (HACCP) requirements and SPS measures, such as maximum residue levels (MRLs) for pesticides.

⁴ The report of the Expert Meeting, together with 35 papers and presentations, is available on UNCTAD's Trade, Environment and Development sub-site at www.unctad.org/trade_env/. Unless otherwise indicated, all references are to papers or presentations at the Expert Meeting.

⁵ See M. Joshi, "Effect of environmental measures on international trade: The Indian experience".

B. Trends in environmental and health requirements

8. There is little empirical information on the incidence of environmental requirements in international trade. Moreover, the coverage and reliability of the data in the few available studies are often debatable. A recent study by the International Trade Centre reveals that almost 4,000 of the investigated 5,000 products traded internationally face environment- or health-related requirements. In value terms, around 13 per cent of world trade seems to be subject to such requirements. Food products, plants, bulbs, cut flowers, wood and wood products, footwear, medicines, telephones and automobiles are among the most-exposed product categories, and LDC exporters are the most affected.⁶

9. There are indications that environmental requirements are becoming more frequent, more stringent and more complex. The WTO Environmental Database shows that the share of environment-related notifications under the TBT Agreement increased steadily from 9.7 per cent in 1991 to 15.6 per cent in 2000, although it dropped to 11.1 per cent in 2001. This excludes private sector measures and other requirements that seem to be growing faster than regulations.⁷

10. Environmental and health requirements are also becoming more stringent, as a result of growing evidence of harmful environmental effects of certain substances, changes in consumer preferences and the development of equipment that allows better testing. The environmental requirements of importers and buyers are often more stringent than regulations. Many large buyers impose strict requirements throughout the supply chain.

11. Meeting an increasing number of product-related standards and technical regulations requires changes in PPMs, including technological upgrading. This is the case, for instance, with thresholds for heavy metal or hazardous chemicals use or residues in products.

12. Discussions on the draft Strategy for a Future Chemicals Policy⁸ in the European Union (EU) point to the imminent introduction of legislation that implements a precautionary approach. This will lead to the reversion of responsibility from the authorities to the private sector for the testing and risk assessment of chemicals and metals and the introduction of an authorization system for the most dangerous substances. It will also affect foreign suppliers, including small and medium-sized enterprises (SMEs) (because an annual production volume of only 1 tonne will be covered), and lead to significant information provision requirements.

13. EU Directive 2000/53/EC on End-of-Life Vehicles will also have multifaceted implications for several sectors. Although it is aimed at sound management of scrapped vehicles, it will bear on material selection, limitation of the use of hazardous materials, and the use of recyclable and/or biodegradable material, as well as on design for recycling. Vehicles and vehicle parts account for a significant share of metal, glass, plastic and foam

⁶ See "Environmental trade barriers: Who wins, who loses, what's the score?", interview with Friedrich von Kirchbach, *International Trade Forum*, Issue 3/2002, at www.tradeforum.org/news.

⁷ See R. Kumar, "Sustainable trade: Market place realities for developing countries".

⁸ Stakeholders' Conference on the Commission's White Paper on the Strategy for a Future Chemicals Policy, Brussels, April 2002, www.europa.eu.int/comm/environment/chemicals/conference/018-final_report.htm.

consumption in car-exporting developing countries. In the Japanese market, two recent policy initiatives will have a significant impact on environmental requirements in many sectors: the recycling-oriented economy framework and the green purchasing act.⁹

14. Also, the operation of SPS measures, for example in the fisheries and honey sector, is becoming more complex as a large part of the responsibility for enforcing such measures is shifted to the exporting country.¹⁰ Most developing countries, however, have poor technical capacity to efficiently manage SPS and food safety matters.

II. SECTORS

A. Food products and other agricultural products

Pressures and driving forces

15. As a result of recent scientific advances and growing public awareness of food safety issues, national and regional authorities are imposing a wide range of health- and environment-related requirements concerning food and other agricultural products. Since confidence in food safety has been challenged by recent food scares, consumers expect retailers, through their purchasing practices, to supplement government regulations for ensuring food safety. Both consumers and retailers are demanding more transparency, traceability and quality assurance in the food chain.¹¹

Implications

16. Difficulties cited by developing country experts include:

- Limited awareness of emerging product standards in foreign markets;
- Incomplete knowledge of new processing options available to meet product standards;
- High levels of required investment in infrastructure, technologies and skills, and of related costs needed to adjust production processes and assess compliance;
- Lack of domestic infrastructure and facilities to test against very stringent standards;¹²

⁹ For more information, see Japan Environmental Management Association for Industry at www.jemai.or.jp.

¹⁰ See presentations by Angola, Cuba, Gambia, Ghana, Guinea, Uganda and the United Republic of Tanzania.

¹¹ “Ways to enhance the production and export capacities of developing countries of agriculture and food products, including niche products, such as environmentally preferable products”, (TD/B/COM.1/EM.15/2), 20 May 2001.

¹² Cuba presented a study on honey and coffee describing lack of in-country technical capacity to verify compliance with the very low MRL limits required under EU Regulation 2377/EC.

- Standards and regulations not appropriately covering some developing country products;¹³
- Difficulties with establishing standards equivalence with trading partners;
- Scope of risk assessment procedures used to set standards being limited to avoiding negative impacts in importing country without adequate attention paid to assessing negative socio-economic impacts of such standards on exporting countries;
- Insufficient opportunities to provide input into processes that develop regulatory and voluntary food safety standards.

Responses

17. Developing countries are making considerable efforts to meet health and environmental requirements in the food sector, in particular through awareness raising, legislation, setting up of testing infrastructure and inspection services, and improving handling and processing. With increasing information provision requirements on the part of authorities and buyers in importing countries, data collection has to be strengthened. In addition, developing countries need access on favourable terms to state-of-the-art equipment and technologies to comply with, and verify their compliance with, increasingly stringent standards.

18. Enhancing opportunities for developing countries to provide feedback on developed country food safety standards could help achieve greater balance between domestic health-related benefits and socio-economic impacts of those standards on producing countries.¹⁴

B. Certified forestry products

Pressures and driving forces

19. In the 1990s, concerns about tropical deforestation led to increasing international attention being given to sustainable forest management (SFM). A number of initiatives were established to define criteria for SFM, including by the International Tropical Timber Organization. Many countries and regions have developed SFM criteria, policies and certification programmes. However, mutual recognition among certification programmes rarely exists.¹⁵

¹³ Peru described how traditional foods are now subject to complex import regulations simply because of their exogeneity (EU Regulation 258/97 on Novel Food and Novel Food Ingredients). Caribbean countries have reported similar problems in exporting certain traditional food products to the United States market, because MRL levels have not been defined for these products (Sandra Vokaty, Inter-American Institute for Cooperation on Agriculture, personal communication).

¹⁴ See the aflatoxin case mentioned in the Chairman's summary.

¹⁵ In practice, mutual recognition is operational only under the PEFC umbrella (personal communication from Mr. Abdirizak H. Mohamed, Finnish Forest Industries Federation).

20. Only a minor part of the wood supplied from certified forests is actually traded as labelled certified forestry products (CFPs). CFPs bear labels demonstrating in a manner verifiable by independent bodies that they come from forests that meet standards for SFM. Thus, they fall into the category of Type 1 environmental labels, as classified by the International Organization for Standardization (ISO). They generally utilize the life cycle concept from forest extraction through end products, but excluding consumption and disposal stages. Currently there are four major CFP labelling systems. These are granted by the Forest Stewardship Council (FSC), the Pan-European Forest Certification System (PEFC), the Sustainable Forest Initiative (SFI) and the Canadian Standards Association (CSA). SFI and CSA are just beginning to develop their labels/marks. Only FSC operates globally.

21. As of mid-2002, there were approximately 124 million hectares of certified forests, representing 3 per cent of the world's forest areas. Around 90 per cent of certified forest areas are located in the Northern hemisphere. The imbalance between developed and developing countries has changed rapidly in the last two years with the emergence of new certification systems in Europe and North America.¹⁶ Between 2000 and 2001, certified forest land in developed countries doubled.¹⁷ Thus it appears that the forest certification movement has moved away from the original concerns about tropical deforestation to commercial interest in the potential of certification as a voluntary market-based instrument.

Implications

22. Small timber companies in developing countries face two challenges: (a) getting certified; and (b) making certification work in their favour.¹⁸ Important obstacles to obtaining certification include the high cost of certification (due in particular to lack of national inspectors and internationally recognized certifying bodies), the need to comply with rigorous criteria, which may not be adapted to local environmental and developmental conditions, and limited access to certification services. Chain-of-custody monitoring obliges certified companies to adopt a tracking system that enables certifiers to trace each forest product through the process of harvesting, processing, storage and sale. Such systems have up to now clearly favoured large-scale industrial forest holdings.¹⁹

23. Even when these obstacles are overcome, reaping the full commercial benefits of certification has proved to be difficult. First, developing country producers have not been able to increase their share in world timber exports from certified forests partly because of the rapid increase in production from certified forests in developed countries. Second, owing to limited awareness, consumers are showing little willingness to pay price premiums for certified timber, with the exception of some high-value tropical products. Growing demand is generated primarily from bulk buyers and retailers seeking to "green" their image and thereby gain a competitive edge. Public procurement is also an important driver of demand in several

¹⁶ UNECE/FAO, *Forest Products Annual Market Review*, 2001–2002, 2002.

¹⁷ UNECE/FAO, *Timber Committee Yearbook 2002*, 2002.

¹⁸ N. Andrews, "Challenges for sustainable timber production and export for tropical countries: Perspectives from the Asia-Pacific region".

¹⁹ UNECE/FAO, *Forest Products Annual Market Review*, 2001-2002, 2002.

key markets.²⁰ Third, the tropical timber industry has not been able to increase prices of (certified) timber, being concerned that this would encourage further replacement by temperate timber and non-timber substitutes.

Responses

24. The debate at the Expert Meeting identified a number of approaches to address the problems outlined above, for example:

- Support should be provided for tailored capacity building to exporting developing countries, including institutional strengthening, stakeholder participation, auditing systems, training and better understanding of the benefits/limitations of certification;
- Major internationally recognized certification schemes (such as FSC) should actively promote mutual recognition of other schemes, particularly national schemes from developing countries, which take into account country-specific and realistic guidelines for sustainable forest management.

C. Leather and textiles

Pressures and driving forces

25. The leather and textiles sectors are exposed to several health and environmental requirements in domestic and international markets. Indian exports, for example, have been affected by bans on products containing traces of azo dyes, pentachlorophenol (PCP), harmful amines and other substances.²¹ Other issues that have affected exports of textiles are eco-labels, based on life cycle analysis, buyers' requirements and ISO standards. Animal rights issues have also affected Indian exports of leather. A study on Pakistan expresses concern that with the phasing out of quantitative restrictions, quality standards and environment-related requirements of buyers in developed countries have become more stringent.²²

Implications

26. In India, the need to comply with such requirements has resulted in cost increases. It has been reported that substitutes are 2.5 times more expensive than azo dyes and that azo-free dyeing increases costs by 15 to 20 per cent. Costs of testing have also increased. Large companies have generally been able to meet the high standards of key export markets, but many smaller units have shifted to other markets.²³ The regulatory and institutional

²⁰ Ibid.

²¹ Joshi, *op. cit.*

²² A. S. Malik, "Impacts of environmental regulations on the textiles sector of Pakistan".

²³ Joshi, *op. cit.*

framework in several developing countries is insufficient to address the problems faced by the export industry.

Responses

27. Governments in a number of developing countries, such as Bangladesh, India, Nepal and Pakistan, have taken steps to improve environmental performance and strengthen capacities to meet standards. For instance, the Government of India (GoI) has banned 112 harmful azo dyes. Pollution Control Boards have played a proactive role in laying down norms for effluent treatment. Efforts have been made to disseminate information and to develop eco-standards. The GoI has also established a Technology Upgradation Fund and strengthened testing laboratories, and has been assisting textile units in securing ISO certification.²⁴

28. The public and private sectors in Pakistan have taken several initiatives to protect the environment and increase compliance capacity within the framework of National Environmental Quality Standards and Environmental Improvement Plans. The Federation of Pakistan Chambers of Commerce and Industries, with financial support from the Netherlands, has initiated an Environment Technology Programme for Industry, which has induced industrial units in the textiles and leather sectors to make investments in environmental improvements.

29. A joint initiative of the Governments of Finland and Nepal aims to enhance environmental performance and labelling in certain export industries through awareness raising, capacity building and support in acquiring equipment. It has strengthened technical monitoring capacities and assisted companies in achieving significant cost savings and improving environmental performance.²⁵

D. Electronics

Pressures and driving forces

30. A number of developed countries, such as Japan, Switzerland and member countries of the European Union, have recently adopted or are considering legislation on environmentally sound disposal or recycling of many materials, particularly metals and plastics. In addition, stringent limits for various hazardous heavy metals, chemicals and substances have been imposed. Although these requirements will affect a large number of sectors, they have a particular bearing on electronics. In the EU, for instance, such drivers for change include:

- The Waste from Electrical and Electronic Equipment (WEEE) Directive;

²⁴ Ibid.

²⁵ Paper submitted by Ms. Romi Manhandhar, Under Secretary, Ministry of Industry, Commerce and Supplies, Nepal.

- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive;
- Integrated Product Policy (IPP);
- The Home Appliance Recycling Law;
- The Draft Strategy for a Future Chemicals Policy.²⁶

Implications

31. The electronics sector illustrates the implications of environmental requirements, emerging largely in the context of IPP on a range of issues (e.g. producer responsibility and recycling legislation on materials, energy, packaging and hazardous substances), as well as the need to be more innovative in product design. These requirements will have the greatest impact on important electrical and electronics exporters, located mainly in Asia. In Thailand, for example, approximately 20 per cent of those exporters' products are exported respectively to the EU and Japan, both of which are implementing recycling legislation. The product-content-related requirements often require a drastic change in PPMs, product design and material selection. For example, lead substitution is likely to require changes in capital equipment.

Responses

32. In Thailand, a high-level subcommittee was set up in 2000 to monitor the development of the EU WEEE and RoHS Directives and propose an appropriate plan of action to relevant government units and the private sector. Preliminary results reveal that Thailand needs specific support from the EU, Japan and other concerned developed countries in the areas of environmentally sound technologies, eco-design and life cycle assessment methodology, in order to enhance competitiveness and maintain export growth.²⁷

III. PROBLEMS FACED BY DEVELOPING COUNTRIES

33. Several pollution-intensive sectors are among the most dynamic in many developing countries, whereas they are sunset industries in almost all developed countries. Developed countries may therefore be inclined to impose stricter requirements on those industries that are no longer so important in their national economies – the copper industry, for example. Although technological leapfrogging by developing countries might attenuate some adverse environmental or health effects, those countries still need to develop and implement domestic regulations suited to their local production and socio-economic conditions. The environmental requirements suited to developed country industrial structures may not be appropriate for developing country conditions and remain problematic for exporters.

²⁶ M. Charter, Environmental requirements and international trade: The electronics sector”.

²⁷ C. Hengrasmee, “Environmental requirements in the electronics sector: Implications for developing countries”.

34. From the description of the four sectors above there emerge a number of common problems faced by developing countries in responding to environmental requirements in export markets.

A. Structural constraints

35. Structural problems include a lack of awareness and poor management of information, poor infrastructure (including transport, storage, testing, certifying and monitoring facilities), limited scientific, technical and managerial knowledge and skills, dominance of SMEs in the industrial structure, insufficient access to technology and ability to adapt technologies to local conditions and production processes, and limited institutional capacity.

B. High costs

36. Owing to these structural problems, the costs of compliance with environmental requirements in external markets can be very high. These costs fall into three general categories:

- Costs of adjusting production processes, which generally require significant human and financial resources. In the longer term, these costs may be partially offset in some cases by more efficient resource use;
- Costs of conformity assessment, including testing, monitoring and certification. As adequate facilities for these activities are lacking in many developing countries, producers and exporters often have to rely on expensive services performed in recognized and accredited laboratories and certification bodies in developed countries;
- Costs of non-compliance, including import restrictions or bans in export markets.

37. Developing countries find it difficult to offset these higher costs with higher prices, for the following reasons:

- Developing countries often sell standardized mass products or commodities at low prices, for which the introduction of additional production costs significantly erodes competitiveness, because environmental management costs account for a relatively high share in total production costs;
- Raising prices could cause product substitution in export markets (e.g. from tropical to temperate timber);
- Price premiums are difficult to realize, sometime owing to lack of consumer awareness of the environmental benefits of certain products, such as certified forest products. Even where price premiums exist at the retail level, this does not always translate into higher prices for producers.

38. Environment-related requirements generally create additional difficulties for SMEs because of their limited capacity to raise additional capital, managerial and technological constraints and costs of compliance.²⁸ For example, certain installations (such as waste treatment facilities) require a minimum level of operation. Environment-friendly input materials may be more expensive for SMEs since they cannot use bargaining power to obtain such inputs at lower prices.

C. Information

39. Producers in developing countries lack information on existing and emerging environmental and health requirements, partly owing to poor information flow and management. Most developing countries lack well-functioning national inquiry points or early warning systems. In addition, information on voluntary standards and buyers' requirements is extremely fragmented. No clearing-house mechanisms for such information exist.

D. Standard-setting

40. Standards set both at the international level and by developed countries do not generally take into account the differing environmental, production and development conditions in developing countries. Developing country trade partners are rarely invited to participate in the early stages of discussions about possible new environmental or health requirements.

41. In international standard setting, developing country participation is notoriously weak. This is due to the lack not only of funds to travel to meetings, but also of scientific capacity to properly prepare country positions. Greater regional cooperation may be appropriate since this offers the opportunity for pooling scarce resources and also for developing a scientific base.

42. Generally, developing countries are standard takers rather than standard setters, even in those sectors in which they are the dominant producers.

43. Furthermore, there are considerable variations in environmental requirements across markets, significantly increasing costs of information gathering and compliance. Mutual recognition and technical equivalence agreements are virtually non-existent.

IV. SOLUTIONS, INCLUDING CAPACITY BUILDING

44. The problems outlined above require multifaceted action on the part of Governments and stakeholders in developed and developing countries alike. This involves better information and approaches to standard setting in countries moving towards higher standards,

²⁸ Government of India, "The effects of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them", WTO document WT/CTE/W/207, May 2002.

proactive strategies in exporting countries, coordination among donors and international agencies, science and technology issues, and capacity building. WTO issues are also important. This section highlights some of those areas.

A. Effective information management

45. Gathering information about new and emerging environmental and health requirements in export markets, and the effective management and dissemination of those requirements, are critical areas of any proactive adjustment strategy in developing countries.

46. Developing countries need to fully exploit existing mechanisms for gathering information about new standards and regulations in developed country markets. Several studies point to the need, for instance, to improve internal dissemination of notifications under the WTO's TBT and SPS Agreements and of information received from international standardization bodies. Developing countries are provided with accelerated access to notifications concerning products of key export interest to them through ISONET.²⁹ There is also the need to make fuller use of National Enquiry Points in developed countries.

47. Early warning systems for exporters regarding new and emerging standards and regulations in overseas markets can be an effective tool.³⁰ These could include a feedback mechanism by which exporters and producers can alert their Government about difficulties they encounter in meeting certain requirements.³¹ National information exchange mechanisms set up by the private sector may also be an effective instrument. The Barbados Manufacturing Association, for instance, has created a "clustering" initiative to help firms exchange information on environmental requirements in export markets and share experience with regard to adjustment measures.³²

48. The WTO, with World Bank funding, has recently created a number of reference centres for interested developing countries. These centres could be further developed, including the establishment of a central database on all internationally accepted standards and cases in which countries deviate from those standards.³³ Also, the Commonwealth Science Council has launched a Sustainable Trade and Innovation Centre to promote developing country exports of sustainable goods and services through provision of market information, building entrepreneurs' innovative capacities, and helping to harmonize and co-evolve voluntary codes of conduct through partnerships.³⁴

²⁹ To benefit from this facility, which focuses on voluntary standards promulgated by International Electrotechnical Commission and the IEC, developing countries have to submit a list of products of key export interest. So far, only a few developing countries have taken advantage of this provision.

³⁰ In Brazil, for instance, there is a system run by INMETRO, a standardization institute, called "alerta o exportador".

³¹ Such information could be useful in preparing country interventions in the SPS and TBT Committees.

³² D. Oderson, "Trade policy and international environmental requirements in Barbados".

³³ Proposal made at the Ministerial Round Table on Closer Co-operation between the EU and Developing Countries on Product Standards, UK Department for International Development, London, February 2002.

³⁴ Kumar, *op. cit.*

49. However, there are still major gaps, in particular regarding the listing of voluntary standards, buyers' requirements and eco-labelling schemes. These gaps can be overcome only by coordinated public and private sector information-gathering initiatives.

50. SMEs face particular difficulties in gathering timely and sufficient information and duly interpreting it. Government and donor efforts should therefore be particularly geared towards addressing their needs. In Ghana, for instance, a series of workshops has been organized by the Ghana Standards Board and the Ghana Export Promotion Council with the financial support of the United Kingdom Department for International Development (DFID).³⁵

B. Development of standards

51. In the development of environmental and health standards and regulations, possible implications for developing country exports should be taken into account. Examining and further exploring best practice in developing and implementing environmental regulations and standards may be useful. Also, due consideration must be given to how conformity can and will be assessed when promulgating new standards.

C. Science and technology

52. Environmental and health requirements increasingly involve issues related to science and technology. There is a general consensus that sound science must be used as a basis for setting standards. However, the science on which standards are based may evolve rapidly and this is one of the reasons why standards change frequently and vary across countries.

53. Science and technology play a key role in research and development and in strengthening developing countries' capacities to comply with environmental and health requirements. India, for example, has managed to substantially reduce aflatoxin levels in peanuts and has also developed reliable and affordable testing methods. Also, improving the capacity of developing countries to conduct risk analysis in the light of their own specific (e.g. climatic) conditions would help them make their domestic standards more compatible with their local conditions.

54. Science is important in coordinating risk analysis with cost-benefit analysis, and in developing approaches to comparative risk. A comprehensive approach should prevail in assessing the safety of new technologies, including biotechnologies.³⁶

55. The extension of trade rules to non-tariff measures and government regulations has moved issues relating to science to the forefront of the trade agenda. Science has become *the* legal test in the WTO with respect to trade measures that have to do with the environment,

³⁵ L. Mensah, "The Ghanaian experience".

³⁶ A. Vikhlyayev, "Science and technology in trade policy and multilateral negotiations", International Conference on Science, Technology and Innovation: Emerging International Policy Issues, Harvard University, September 2002, <http://www.cid.harvard.edu/cidbiotech/comments/comments184.htm>.

food safety and health. However, this could increasingly put developing countries at a disadvantage. Most of them lack a large, well-resourced scientific community and thus may find it difficult to defend their trade interests. This problem is likely to be exacerbated in the future, because precautionary approaches in export markets will increasingly require scientific proof of product safety, thus shifting the burden of proof to producers.

56. Developing countries need access to and transfer of environmentally sound technology in order to respond to environmental challenges, promote innovation and meet environmental requirements, including in the context of multilateral environmental agreements. Such issues are also important issues in the context of the WTO Working Group on Trade and Transfer of Technology.

Science and Technology Diplomacy Initiative

57. In June 2002, UNCTAD, with the support of the Science, Technology and Innovations Programme at the Kennedy School of Government, launched the Science and Technology Diplomacy Initiative. The Initiative targets a number of areas on the international trade agenda such as international arrangements for technology transfer, biotechnology and trade, managing technological risks and benefits, and standard setting.³⁷ The aim is to alert trade officials to the relevance of science and technology to discussions and negotiations in the WTO; provide focused support to address current issues and to signal newly emerging ones; and establish mechanisms that facilitate ready access by trade officials to scientific communities for advice on complex issues and for support during international negotiations.

D. Environmental goods and services and environmental requirements³⁸

58. The need to address environmental problems and to comply with environmental requirements in export markets generates demand for EGS, in particular in developing countries. In developed countries growth in demand for support services to help companies comply with environmental legislation appears to have slowed down, although the implementation of voluntary instruments such as ISO 14001 may create new business opportunities. In developing countries demand for support services, such as laboratory testing, legal services, consulting services and certification may be growing rapidly. There is also an increasing need for feasibility studies on environmental infrastructure, capacity building for drawing up legislation and environmental institution building.³⁹

59. Strengthening capacities in the environmental services sector in developing countries, while primarily aimed at addressing environmental problems, may also result in their being able to become international providers in this field.⁴⁰ For example, firms from developing countries may be able to compete in regional markets with similar environmental problems.

³⁷ Ibid.

³⁸ See also the secretariat's report on *Trade in services and development implications*, submitted to the Commission on Trade in Goods and Services, and Commodities.

³⁹ UNCTAD, "Strengthening capacities in developing countries to develop their environmental services sector", TD/B/COM.1/EM.7/2, May 1998.

⁴⁰ Ibid.

Some developing countries may become providers of consulting, training and certification services, for example in the area of ISO 14001. However, the dominance of developed country firms in traditional, more mature sectors of the environmental industry, such as wastewater treatment and air pollution abatement, may make it difficult for developing countries to compete in these sectors.

60. The broadening of the environmental goods characterization to include environmentally preferable products (EPPs), such as products derived from sustainable agriculture, fisheries or forestry, may provide export opportunities for developing countries. Improved market access could be provided for inherently environmentally friendly products (e.g. jute as biodegradable packaging material). If it goes beyond such products one must carefully tackle these issues, since they may involve non-product-related PPMs. Attention could perhaps focus on removing certain non-tariff obstacles to exports of EPPs from developing countries⁴¹ and on issues such as harmonization and equivalence.

E. Harmonization and equivalence

61. The multitude of environmental requirements and compliance assessment mechanisms in importing markets significantly increases costs for export-oriented producers in both developed and developing countries. Thus there is a need for harmonization and equivalence agreements in both areas.

62. Harmonization of regulations and standards that are already in place can be practically very difficult. There is, however, scope for pre-standard-setting harmonization in certain cases. This could involve relying as much as possible on international standards, where available, and entering into discussions with other countries or organizations that are developing or have developed standards or regulations on the same product or issue. Prospects for harmonization of environmental requirements may be greatest for countries within the same region or with similar environmental conditions and concerns.

63. Harmonization of environmental requirements among developed countries can also be beneficial to developing country exporters, as they could produce in compliance with the same or similar requirements in different export markets. By way of illustration, EU member countries usually practise mutual recognition of national standards and regulations. Third-party suppliers from developing countries, however, do currently not benefit from such arrangements and have to meet the requirements in each individual EU member country.⁴²

64. In the case of environmental requirements, however, there are inherent limitations to the concept of harmonization. As stated in Principle 11 of the 1992 Rio Declaration, environmental requirements must be suited to the local environmental, social and

⁴¹ In the case of organic products, for example, there is a need to ensure transparent and understandable rules governing imports, appropriate recognition of the special conditions of developing countries and group certification in the importing country's regulations, and non-discriminatory use of labels. "Report of the CBTF policy dialogue on promoting production and trading opportunities for organic agricultural products from developing countries", Brussels, February 2002.

⁴² India, for instance, highlighted a number of specific problems in this regard, which caused significant costs.

development conditions. Thus there is a need to facilitate the establishment of technical equivalence agreements (TEAs), which formally recognize that although the exact specifications of two standards or measures may differ, they nonetheless fulfil the same objective. TEAs are the only alternative to harmonization through international standards mentioned in the TBT Agreement. They could help ensure that environmental requirements drafted by developing countries would be well suited to their domestic context and also recognized in developed country markets. There is a need to develop a supportive framework (i.e. guidelines and a forum for discussion) for drawing up of TEAs.⁴³

65. Perhaps even more urgent than equivalence of environmental requirements is mutual recognition of compliance assessment procedures, at the accreditation⁴⁴ or certification levels. Such accords should be easier to arrive at than TEAs and, for developing countries, can significantly reduce costs.

66. In the area of organic agriculture, the International Federation of Organic Agriculture Movements (IFOAM), the Food and Agriculture Organization of the United Nations (FAO) and UNCTAD have joined forces to address the difficulties arising from the fact that the organic sector is faced with hundreds of private standards and government regulations, two international standards and a number of accreditation systems. As recommended by a jointly organized Conference on "International Harmonization and Equivalence in Organic Agriculture" (Nuremberg, Germany, February 2002), those organizations plan to establish a Task Force comprising representatives of Governments, private sector bodies and the three organizations. The objectives are to enable an open dialogue between relevant private sector bodies and Governments, and to develop appropriate mechanisms for the establishment of equivalence of standards and certification procedures.

F. Participation in international standard setting

67. A recent study sponsored by DFID⁴⁵ makes a number of practical proposals for enhancing participation of developing countries in international standards setting bodies, such as exchange of staff of standard-setting bodies in developed and developing countries; support for regional consultations between developing countries feeding into the work of international standard-setting bodies; support for regional standardization activities in developing countries; financial and technical support for better electronic communication infrastructure; and a range of measures to allow developing countries a greater role in technical committees of international standard-setting bodies.

⁴³ T. Rotherham, "Environmental labelling, extra-territoriality and technical equivalence", BRIDGES, Vol. VI, no. VI, September 2002.

⁴⁴ The International Accreditation Forum has developed a multilateral recognition agreement (MLA) between national accreditation bodies. However, only 16 developing countries participate. Many developing countries, particularly LDCs, do not have national accreditation bodies, which seriously hampers their abilities to enter into MLAs.

⁴⁵ S. Henson, K. Preibisch and O. Masakure, "Review of developing country needs and involvement in international stand setting bodies", February 2001, may be found at www.dfid.gov.uk/.

68. Given their limited resources, it could be advisable for developing countries to focus standard-setting involvement on a few products of greatest export interest. Through regional or South-South cooperation, lead countries for each product could represent the interests of other countries in relevant technical committees of international standard-setting bodies.

G. WTO issues

69. In their papers and statements, a number of developing countries such as Ghana,⁴⁶ Mexico,⁴⁷ Senegal,⁴⁸ Thailand and Uganda,⁴⁹ elaborated on WTO-related issues listed in the annex to the secretariat's notification for the Expert Meeting (TD/B/COM.1/EM.19/1). These include special and differential treatment (S&D) for developing countries; special measures for SMEs; effective transparency provisions relating to standards and environmental labelling, including notifications of emerging environmental regulations in early stages of development; notification of voluntary standards; transfer of technology; and exploring possibilities of facilitating market access for EPPs from developing countries, for example in the context of negotiations on EGS. Some felt that extended adjustment periods for developing countries, especially for SMEs, should be considered under WTO rules and by standard-setting countries. Some called for a review of "best endeavour" clauses to ensure that developed countries comply with their obligations under relevant WTO Agreements.⁵⁰ Also, it was emphasized that the needs and constraints of developing countries should be taken into account in the development of standards, which required the involvement of developing countries in standard setting.⁵¹ In most cases, enhanced understanding of the implications and possible responses to environmental requirements may provide inputs to ongoing discussion in the WTO's TBT, SPS and CTE Committees, as well as in the Working Group on Trade and Transfer of Technology.

H. Technical cooperation and capacity building

70. It is widely recognized that developing countries need capacity building to be able to meet stringent environmental and health-related requirements in international markets as well as to take advantage of new trading opportunities. Many programmes provide technical assistance/capacity-building to developing countries. Some of them were presented at the Expert Meeting. The United Nations Industrial Development Organization (UNIDO), for example, has collaborated with some 1,600 national institutions in developing countries in the context of its Cleaner Production Programme. Activities include technical assistance at plant

⁴⁶ Mensah, *op. cit.*

⁴⁷ Ministry of the Environment and Natural Resources, "Environmental norms and international trade: Contribution by Mexico".

⁴⁸ Ministère de la Jeunesse, de l'Environnement et de l'Hygiène Publique, Direction de l'Environnement et des Etablissements Classés, "Communication du Sénégal".

⁴⁹ R. Agaba, Ministry of Tourism, Trade and Industry, Uganda, "Uganda's experience".

⁵⁰ Mensah, *op. cit.*

⁵¹ Barbados, "Trade Policy and International Environmental Requirements". République du Niger, Ministère du Commerce et de la Promotion du Secteur Privé, Direction du Commerce Extérieur.

level, promotion of cleaner technology and investment, policy advice and awareness creation.⁵²

71. Bilateral assistance also plays a key role. For example, in February 2002 the Commission of the European Union announced a new programme worth more than 42 million euro to help African, Caribbean and Pacific countries (ACP) countries overcome difficulties encountered in complying with consumer health standards in the fisheries sector.⁵³

72. There is still concern, however, that many capacity-building efforts are piecemeal and occur only once problems of compliance with environmental and health requirements have been identified, rather than being part of a proactive strategy aimed at strengthening capacities to promote competitiveness and development.

73. The World Bank and the WTO announced the creation of a Standards and Trade Development Facility in September 2002 to provide a stimulus to new projects for developing countries and help them shape and implement international standards on food safety, and plant and animal health.

74. UNCTAD is promoting a range of technical assistance/capacity-building activities aimed at assisting developing countries in promoting sustainable development through trade.⁵⁴ A project on standards and trade, funded by the International Development Research Centre in Canada (completed in June 2002) has supported research aimed at identifying policies to address constraints faced by developing countries, in particular the LDCs, in responding to SPS measures and environmental requirements in international markets. Studies were undertaken in South Asia, East and Southern Africa, and Central America. A workshop, held in Geneva (17 May 2002), made possible an interregional exchange of experiences.⁵⁵

75. The UNEP–UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF), which was considerably strengthened at the WSSD, among other things, supports activities aimed at promoting production and exports of EPPs from developing countries.⁵⁶ Reflecting the close cooperation with the WTO secretariat, a number of CBTF activities have been included in the WTO Plan of Technical Assistance Activities for 2003.⁵⁷ These include three CBTF meetings for Geneva-based delegations and two CBTF meetings held back to back with WTO regional seminars on trade and environment. The UNCTAD secretariat, including in the context of CBTF, is further strengthening its cooperation with other institutions, such as UNIDO, FAO, the UN regional economic and social commissions, the private sector and civil society.

⁵² M. Eisa, "Cleaner production worldwide".

⁵³ "Commission welcomes boost for trade-related technical assistance". press release, Brussels, 13 March 2002.

⁵⁴ Reports on these activities as well as information on future activities are continuously updated and accessible at www.unctad.org/trade_env/.

⁵⁵ Papers related to these activities can be accessed at www.unctad.org/trade_env/.

⁵⁶ Including a Policy Dialogue on Promoting Production and Trading Opportunities for Organic Agricultural Products, hosted by the ACP secretariat in Brussels in February 2002.

⁵⁷ WT/COMTD/W/104/Add.1, 4 October 2002.

76. Under the project entitled “Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues”, UNCTAD and the Foundation for International Environmental Law and Development (FIELD), with the financial support of DFID, are assisting selected developing countries in building national and regional capacities to deal with trade, environment and development issues, both domestically and at the WTO. The project involves three regions – Africa (Ethiopia, Kenya, Mozambique, Uganda and the United Republic of Tanzania), Central America (Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama) and South-East Asia (Bangladesh, Cambodia, China, Philippines, Thailand and Viet Nam). Experts from all three regions showed strong interest in addressing issues related to environmental and health requirements and market access and trading opportunities for EPPs, focusing on the agricultural sector.⁵⁸

77. UNCTAD’s BioTrade Initiative is implementing regional and national programmes that enhance the capability of developing countries to produce value-added products and services derived from biodiversity, for both domestic and international markets. Country programmes are currently being developed in Bolivia, Colombia, Ecuador, Peru and Venezuela. In addition, there are regional programmes, such as the Andean BIOTRADE Programme and the Programme Bolsa Amazonia.⁵⁹

V. POSSIBLE ISSUES TO BE ADDRESSED BY THE COMMISSION

78. The Commission may wish to pay particular attention to a number of issues raised in this paper.

79. *Standards, trade and development.* The Expert Meeting revealed that developing countries face certain constraints and therefore need support to effectively participate in pre-standard-setting discussions and implement proactive adjustment strategies to strengthen producers’ capacities to respond to health and environmental requirements. Further work is needed on:

- Collecting empirical data on environmental requirements and conducting research on their likely implications for products of key export interest to developing countries. The results should be used to alert concerned governmental and private sector bodies about new trends and facilitate the active participation of developing countries in pre-standard-setting stakeholder consultations;
- Exploring “best practices” in the development and implementation of regulations and standards that may have implications for developing countries;⁶⁰
- Facilitating proactive adjustment strategies and measures in exporting developing countries and improving the information flow and dissemination of new standards and

⁵⁸ There was also strong interest in issues related to trade-related aspects of intellectual property rights and the environment, particularly traditional knowledge and biodiversity.

⁵⁹ For more information, see www.biotrade.org.

⁶⁰ The outcome of the OECD Global Forum on the Development Dimension of Trade and Environment (New Delhi, November 2002) is relevant in this context.

regulations. This could include support for setting up national or subregional early-warning mechanisms concerning new standards;

- Assisting in examining how standards can help to improve the economic efficiency and competitiveness of developing countries;
- Identifying measures and strategies to address the specific needs of SMEs.

80. *Consultative group.* The Commission may wish to discuss the merits and possible terms of reference for a consultative group as referred to in the Chairman's summary to address relevant issues raised in this report and promote further work on standards, trade and development as outlined in the previous paragraph.

81. *Harmonization and equivalence.* The Commission may wish to take note of the plan to create an IFOAM–UNCTAD–FAO Task Force on equivalence of standards and certification procedures for organic agricultural products, and encourage interested member States to bring this to the attention of the relevant authorities and other stakeholders. It may also wish to discuss elements of a supportive framework for the establishment of TEAs.

82. *Environmental goods and EPPs.* The Commission may wish to consider means to create markets and trading opportunities for EPPs and discuss to what extent negotiations on EGS, as mandated in paragraph 31(iii) of the Doha Ministerial Declaration, could provide impetus to the reduction or elimination of tariff and non-tariff obstacles to trade.

83. *Science and Technology Diplomacy Initiative.* The Expert Meeting discussed the important role of science and technology issues in the field of environmental and health standards. The Commission may wish to provide guidance for further work in this area, in particular in the context of the UNCTAD Science and Technology Diplomacy Initiative.

84. *UNCTAD inputs to the WTO post-Doha work programme.* Information and debate in UNCTAD Expert Meetings and technical assistance/capacity-building projects have contributed to relevant elements of the WTO post-Doha work programme. In addition, as called for in the WSSD Plan of Implementation, the UNCTAD secretariat, including through CBTF, has been strengthening its cooperation with the WTO secretariat in the area of capacity building. Paragraph 33 of the Doha Ministerial Declaration emphasizes the importance of technical assistance/capacity-building in the area of trade, environment and development, and calls for a report to be prepared for the Fifth WTO Ministerial Conference.

85. *Contribution to the implementation of the outcomes of the WSSD.* The WSSD Plan of Implementation called upon UNCTAD to strengthen its contribution to sustainable development programmes, the implementation of Agenda 21 and the WSSD outcomes, particularly in the area of promoting capacity building (paragraph 137). It also called for greater cooperation on trade, environment and development, including in the field of technical assistance, between the secretariats of WTO, UNCTAD, UNDP, UNEP and other relevant organizations (paragraph 91(c)). In addition, UNCTAD is supporting WSSD follow-up through the implementation of "type-2" partnerships, in particular Phase II of the UNEP–

UNCTAD CBTF, UNCTAD–Common Fund for Commodities initiatives in the area of commodities and BIOTRADE partnerships.⁶¹

⁶¹ See UNCTAD, “Promoting trade for sustainable development: UNCTAD’s contribution to the World Summit on Sustainable Development”, UNCTAD/EDM/Misc.216; and UNCTAD, “UNCTAD events organized at the World Summit on Sustainable Development”, TD/B/49/CRP.2.