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THE EFFECTS OF ENVIRONMENTAL MEASURES ON MARKET ACCESS, ESPECIALLY IN RELATION TO DEVELOPING COUNTRIES, IN PARTICULAR TO THE LEAST DEVELOPED AMONG THEM

Note by the Secretariat

1. This Note has been prepared in response to requests from delegations for background information on the effects of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and is intended to be used as one element of input for the Committee's discussion under Item 6 of its work programme.

2. The Note reviews environmental measures from a trade point of view; it does not address their environmental aspect. The first section takes stock of work on the effects of environmental measures on international trade which has taken place in the WTO and other fora such as the OECD, UNCTAD and UNCED, and lists the kinds of trade effects and concerns which it has been suggested can arise. The second addresses the particular situation of the developed and least developed countries and illustrates the practical implications that environmental measures can have on market access drawing on the UNCTAD/UNDP series of country case studies.

I. TRADE EFFECTS AND CONCERNS

3. Environmental policies, particularly in the OECD countries, have become more comprehensive and stringent in the past few years. Their trade effects have been described in terms of both trade promotion and trade restriction.

4. As regards trade promotion, various sources have pointed to the development of a global market for environmental goods, services and technology in response to both new environmental policy initiatives and changing consumer preferences, mainly in the OECD countries. Most recently, the EC Commission estimated the current annual value of this market to be about $250 billion and to be growing at about 8 percent a year[1]. The potential trade opportunities this represents have been noted at a general level but so far there has been little detailed analysis of them, in particular the extent to which they are available to the developing and the least developed countries. Several factors are likely to be involved, including market access restrictions, access to information about new market opportunities and to the necessary technology to meet new product standards, the size of the share of an export market (a small market share may make it uneconomical for overseas suppliers to undertake significant product or technological changes), the size of enterprises themselves, and their reduced chance of reaping significant economies of scale if domestic market demand does not reflect environmental standards similar to those in their export markets.

[1] EC Commission, "Communication to the Council and to the Parliament on Trade and Environment", 28 February 1996, as reported in various periodical journals.

5. The same note of caution, that environmental measures are only one of the factors affecting trade, applies equally to a consideration of their potential to restrict trade. The remainder of this Note summarizes the available evidence on this point. It needs to be borne in mind throughout that few generalizations can be made about the likelihood of any particular measure creating, diverting or restricting trade in the absence of information about the particular circumstances under which it operates.

EMIT Group Discussions of Packaging and Labelling

6. The EMIT Group's mandate covered in part the "trade effects of new packaging and labelling requirements aimed at protecting the environment". Its work was mainly analytical and it did not draw conclusions.[2]

(i) Packaging

7. A number of countries have introduced polices to reduce the quantity of packaging waste, facilitate its recovery, reuse, recycling or disposal, and to oblige producers to take more direct responsibility for tackling the environmental problems it poses. Two particular categories of measures are those aimed at altering the characteristics of packaging used (e.g., its recyclability, recycled content, and bans on certain types of packaging or substances in it), and measures aimed at influencing directly how packaging is disposed of, such as handling requirements, take-back obligations, and deposit-refund schemes. Foreign suppliers can face disadvantages vis-à-vis domestic producers in having to meet these measures, and the costs of adapting to packaging requirements may be particularly burdensome for small overseas suppliers and those from developing countries who lack the necessary technology to adapt to new packaging regulations and access to conformity assessment facilities to comply with certification procedures.

8. In view of the generally longer distances to markets that foreign suppliers face, they are likely to find it necessary to use greater quantities of transport packaging per unit of product than domestic suppliers and consequently to incur increased costs. In the case of take-back obligations, access for foreign suppliers may be made singularly difficult.

9. Since packaging policies are elaborated at a national level with the most common forms of domestic packaging waste and with domestic waste disposal facilities and priorities in mind, they may restrict market access and/or involve additional production costs when they do not correspond to the type of packaging accessible to or preferred by foreign suppliers. At the limit, the kinds of packaging favoured by foreign suppliers for reasons of national resource endowment, production or transport costs, or technological capacity may be banned in the importing market for want of appropriate disposal facilities. A presentation made to the EMIT Group by the ITC described the situation of indigenous packaging materials from developing countries (jute for sacks, wood for boxes, etc.) which is not accepted or is penalized on certain markets where recycling or disposal facilities for those particular packaging materials are too limited.

10. Given the general lack of international harmonization in the area of packaging, exporters may have to meet different packaging requirements in different markets. Important differences can exist in such areas as specification of materials of which packaging can be made, recovery, re-use and recycling targets, and the characteristics of recovery or return systems. This can lead to

[2]See documents TRE/1, TRE/3, TRE/4, TRE/6, TRE/7, TRE/8, TRE/9, TRE/10, TRE/11, TRE/12, TRE/13, the Report by Ambassador H. Ukawa (Japan), Chairman of the Group on Environmental Measures and International Trade, to the 49th Session of the CONTRACTING PARTIES, contained in L/7402, and Notes by the Secretariat contained in documents TRE/W/3 and Add.1 and Add.2, TRE/W/9, and TRE/W/12.

increased compliance costs and may force some foreign suppliers to abandon smaller export markets for which the cost of adaptation would exceed the expected benefits.

11. The importance of ensuring transparency in the design of packaging regulations was stressed in the EMIT Group's discussions. Foreign suppliers should have an opportunity to express their trade concerns at an early stage in the drafting and preparation of new regulations, and should be notified about new schemes with adequate lead time. Some delegations felt that efforts should be made to harmonize, to the extent possible, various national schemes.

12. Since the time of the EMIT Group's discussions, work by UNCTAD suggests that the focus of the debate on the trade effects of packaging measures has shifted -- with the increased frequency of waste recovery exceeding domestic consumption -- to the impact of packaging regulations on producers and exporters of virgin materials more than the capacity of foreign suppliers to adjust to new regulations. After some initial problems, developing country producers have generally proved capable of complying with new packaging requirements and certain OECD countries have made adjustments to their regulations to assist in this regard.

(ii) Eco-Labelling

13. Eco-labelling aims to inform consumers and raise their awareness about the environmental characteristics of a product, and so to change both consumers' and producers' behaviour in favour of environmentally-friendly products and technologies. Most of the eco-labelling schemes examined by the EMIT Group were voluntary in nature. It was felt that these are in principle likely to be less trade distortive than mandatory requirements, but they both could have discriminatory effects and impact on trade.

14. Several of the trade issues raised by eco-labelling are similar to those raised in the context of packaging. The trade effect will depend on how the schemes are designed and administered, which product categories are chosen for labelling, and which environmental criteria are applied as a condition for receiving the label. Trade can be affected if the criteria chosen reflect domestic environmental concerns and priorities which are more easily met by domestic producers. A proliferation of national eco-labelling programmes, each with different criteria, can lead to such market fragmentation that foreign suppliers may be unable, for resource or capacity reasons, to adjust products or production methods to satisfy all the different criteria. They may then be forced to abandon certain of their export markets. High costs of testing and certification of products in order to be awarded the label can also deter foreign suppliers.

15. Eco-labelling schemes based on life-cycle analysis (LCA) of a product, involving processes and production methods (PPM) criteria, have been flagged as a matter of particular concern. These may be based on specific technology which is not readily available to foreign suppliers, especially from developing countries. Foreign suppliers' access to an eco-label may prove more difficult if their own PPMs do not coincide with those required in the exporting market, and the PPMs required in the importing country may be little relevant to the environmental conditions of the exporting country. Developing countries may face particular difficulties in switching to different PPMs in order to be awarded eco-labels in their main export markets.[3]

16. As in the case of packaging regulations, trade effects can be mitigated if foreign producers are given the opportunity to participate at an early stage in the design of eco-labelling programmes

[3]See also UNCTAD, "Eco-labelling and market opportunities for environmentally friendly products", TD/B/WG.6/2, October 1994.

and have adequate time to adjust to new requirements. It is particularly important to ensure the transparency of eco-labelling when the scheme involves products which are of substantial interest to foreign suppliers. International standardization can prove difficult in this area, given the various environmental priorities among countries. However, mutual recognition of the equivalence of different standards used in national eco-labelling schemes and of conformity assessment results for products eligible for national eco-labels may have potential to contribute to alleviating adverse trade effects to some extent, and in that regard the UNCTAD Ad Hoc Working Group on Trade and Environment and Development in its final report in November 1995 invited "… national governments and standardization bodies to explore the scope for mutual recognition and equivalencies at an appropriate level of environmental protection".

Environmental Product Standards

17. Environmental measures often take the form of technical regulations and standards, in particular product standards. They can affect market access in several ways. Lack of timely information and difficult product testing and certification procedures can dissuade overseas suppliers from entering a market. Local conditions are likely to be reflected to some extent in national product standards, thus affecting competitiveness between imported and domestic products to the extent that it is easier and less costly for the latter to meet them. Trade effects can be exacerbated if product standards differ widely across markets, thus deterring overseas producers, for technical and economic reasons, from establishing specialised production runs for each market.

18. Among its proposals to make trade and environment policies mutually supportive, Agenda 21 encourages Governments to "[E]nsure that environment-related regulations or standards, including those related to health and safety standards, do not constitute a means of arbitrary of unjustifiable discrimination or a disguised restriction on trade" and to "[E]nsure that special factors affecting environment and trade policies in the developing countries are borne in mind in the application of environmental standards, as well as in the use of any trade measures. It is worth noting that standards that are valid in the most advanced countries may be inappropriate and of unwarranted social cost for the developing countries".[4]

19. Out of around 5,000 notifications of technical regulations made under the TBT Agreement between 1980 and 1995, about 400 cover measures taken for environmental purposes. These include import prohibitions and restrictions, internal taxes and charges, transport and distribution requirements, packaging, marking and labelling requirements, test and performance requirements, collection, deposit, recycling, re-use and recovery requirements, and content restrictions. They cover products such as agricultural chemicals, PVC products, machinery and equipment, vehicles and parts, endangered animal and plant species and products, toxic and hazardous wastes, petroleum and other fuels, products containing or treated with heavy metals and/or dangerous chemicals, products containing or produced with ozone-depleting substances, and detergents. The minutes of the TBT Committee meetings, at which opportunities are regularly provided for Members to raise their concerns about the trade effects of measures applied by other Members, do not suggest that environment-related technical regulations have been a source of more particular concern than the trade effects of other technical regulations.

20. In 1995, OECD Ministers stated that national product requirements "are permitted under the current multilateral trade rules, subject to agreed disciplines, as complements to domestic product requirements, when their consumption or use would lead to environmental damage in the importing country", and considered that "[S]pecial attention should be given to co-operative

[4]Agenda 21, Section 1, Chapter 2 (June 1992).

approaches, especially with non-OECD countries, to prevent environmental product requirements from unnecessarily impeding exports from other countries and to facilitate market access for goods from these countries."[5].

21. Particular concerns have arisen about product requirements based on LCA. As an initial conclusion, the 1995 OECD Report stated that "[I]n general, the proliferation of different types of national environmental packaging, recycling, recycled content, labelling and other programmes, which are not compatible with one another, can impede trade. Foreign suppliers, particularly developing country exporters, may experience market access problems due to lack of timely and transparent information and practical difficulties, such as arranging for recycling or take-back of packaging and materials. In some cases, a national focus may underlie life-cycle programmes thereby possibly favouring domestic producers".

22. Empirical studies by UNCTAD suggest that "[F]or developing countries complying with specific environmental standards in external markets may be more expensive in relative, and sometimes even in absolute, terms than it is in the developed countries. This is because much of the investment in basic infrastructure has not yet been made and thus the cost of compliance for private firms is higher. The technology and the incorporated inputs required for meeting such standards may also not be readily available. Lack of administrative infrastructure may make it difficult to disseminate information on standards and on monitoring compliance".[6] Furthermore, "it is more difficult for small firms to comply with environmental regulations and standards, both domestic and external, than it is for large firms. This is because small firms have greater difficulties in accessing information, inputs and finance. Moreover, the economic use of some large-scale environmentally sound technologies often requires a minimum scale of operation, which is beyond the scope of small firms. Environmental policies may thus need to especially address the concerns of small firms". "In addition, increased openness was generally found to facilitate compliance with environmental policies. However, increased openness will be more effective in mitigating adverse competitiveness of environmental policies if it is accompanied by other positive measures such as better access to markets, technology and finance".

Economic Instruments

23. In a market economy, policies such as taxes and charges which seek to alter consumer or producer behaviour by directly changing prices are viewed as being more efficient than regulatory measures for both environmental and trade purposes. They are more transparent, they have more uniform, predictable and less distorted trade effects, and they permit market forces to allocate resources efficiently again after the initial price adjustment has occurred and expectations have stabilized, so that changes in comparative advantage over time will be fully reflected once more in market conditions. In general, they are less likely than regulatory instruments to upset existing market shares among domestic and overseas suppliers. The 1995 OECD Report advocates greater use of economic instruments which "have the potential to help achieve environmental goals in a cost-effective manner and to promote innovation".

[5]OECD, Report on Trade and Environment to the OECD Council at Ministerial Level, (hereinafter the 1995 OECD Report), May 1995, OECD/GD(95)63.

[6]UNCTAD, Effects of Environmental Policies, Standards and Regulations on Market Access and Competitiveness, with Special Reference to Developing Countries, Including with Least Developed Among Them, and in the Light of UNCTAD Empirical Studies, "Environmental policies, trade and competitiveness: conceptual and empirical issues", Report by the UNCTAD Secretariat prepared for the UNCTAD Ad Hoc Working Group on Trade, Environment and Development, TD/B/WG.6/6, March 1995.

24. Even so, their specific trade effects will depend upon a number of factors, including which products they are levied on and whether those products are supplied predominantly through imports. The OECD notes in this respect that "to date, environmental taxes and charges on processes have not been set at a high enough level to have significant impacts on trade flows. Environmental taxes and charges on products, and other product-related instruments such as deposit-refund schemes, could affect market access for foreign producers if discriminatory or not well-designed. Deposit refund schemes, if not properly designed, could particularly disadvantage partners who incur significant transportation costs due to their distance from the market. Similarly, depending on their design, it is possible that tradeable permit systems could function in a way to deter investment, either domestic or foreign, but there is no evidence that this has been the case in practice. Indeed, where tradeable permits have been used, they have generally been successful in meeting the regulatory goals while providing incentives to achieve this in the most cost-effective manner".

25. UNCTAD has suggested that "Eco-taxes and charges are likely to become increasingly important as part of a package of economic instruments used to address environmental problems. Border tax adjustments may be used to compensate for the competitiveness effects of domestic eco-taxes. The magnitude of their competitiveness effects and the extent of their use are ultimately empirical questions. Further research is needed to examine both the applicability of economic instruments such as eco-taxes in developing countries, as well as the trade and competitiveness effects of border tax adjustments".[7]

Competitiveness Concerns

26. Environmental requirements are only one element among others that impact on firms' competitiveness, and on average they account for a low percentage of total production costs. Evidence in OECD countries tends to confirm that the effects of environmental costs on competitiveness are in general small. The 1995 OECD Report notes that "while research on the competitiveness effects of environmental policies is still ongoing, the Joint Session has not identified a systematic relationship between existing environmental policies and competitiveness impacts". The OECD "has not identified evidence of countries deliberately resorting to low environmental standards to gain competitive advantages or to attract investments", nor has it identified "evidence of significant industrial migration to countries with lower environmental standards". The Report concludes that "OECD Governments firmly reject demands sometimes made to introduce so-called 'green countervailing duties' or other protectionist or WTO inconsistent trade measures to compensate for negative competitiveness effects, whether real or perceived, of environmental policies".

27. This conclusion has been endorsed by UNCTAD's Ad Hoc Working Group on Trade, Environment and Development. Moreover, UNCTAD/UNDP country case studies do not provide any evidence of "eco-dumping" but suggest rather that strategic policies aimed at obtaining short term economic benefits by deliberately setting standards at an artificially low level, or not enforcing them, are unlikely to be practised on a rational basis. Maintaining lax environmental standards and enforcement may entail greater costs in abatement, resource degradation and depletion in the future.

28. UNCTAD's analysis of the linkages between environmental policies and competitiveness indicates that "[I]n both developed and developing countries environmental policies may have positive or negative competitiveness effects, and available evidence does not warrant

[7]UNCTAD Document TD/B/WG.6/6.

generalisations in this regard. However, in the long run costs may be lower than in the short run. Be that as it may, … in practice, developing countries, particularly the least developed among them, are frequently at a disadvantage on account of the combination of several factors which adversely affect competitiveness, such as lack of information, technology, finance, environmentally friendly raw materials and management skills. Also the sectoral composition of exports, the large share of small and medium enterprises (SMEs) in exports and the low domestic demand for environmentally friendly products may make developing countries more vulnerable" to environmental measures in their export markets.[8]

II. THE PARTICULAR SITUATION OF DEVELOPING COUNTRIES

Characteristics of Developing Country Exports

29. Not all economic sectors and products are similarly affected by environmental regulations. It appears that the sectors in which environmental requirements apply and consumer concern is highest are increasingly those which constitute a large share of developing countries' exports and where comparative advantage is shifting from developed to developing countries, like textiles and clothing, leather and leather products, footwear, forestry products such as timber, furniture and paper, and food products such as fish.[9] In addition, developing countries' exports are generally concentrated on a small number of products and sectors. Therefore, these countries can find it difficult to compensate for a loss of competitiveness in some sectors by gains others. The extent to which a country will be affected by environmental regulations depends on the concentration of its exports in markets with stringent environmental regulations and on the composition of its exports, for example whether the export basket is heavily weighted by products which are subject to environmental regulations. For example, according to an UNCTAD/UNDP study on Brazil, a preliminary survey indicates that around 25 to 30 percent of Brazil's exports to OECD countries belong to sectors where environmental requirements are already emerging.[10]

30. Developing countries' exports often are low value-added products which compete on the basis of price on international markets. This is the case for example of products coming from natural resource intensive industries, which account for a large share of developing countries' exports. Therefore, producers in developing countries may find it difficult to make the necessary investments in order to meet environmental standards.

31. Lack of infrastructure, capital and raw material, insufficient access to technology, and shortage of skills represent further handicaps for developing countries. Environmental legislation is usually less developed in developing countries, which makes it more difficult for their producers to comply with stringent standards in developed countries. The relatively weak

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[8]UNCTAD, Report of the Topical Seminar Held in Helsinki on Environment, Competitiveness and Trade: A Development Perspective, UNCTAD IX/Misc.2, March 1996.

[9]UNCTAD, Environment, International Competitiveness and Development: Lessons from Empirical Studies, "The policy debate on trade, environment and development", Report by the UNCTAD Secretariat to the UNCTAD Ad Hoc Working Group on Trade, Environment and Development, TD/B/WG.6/10, September 1995.

[10]The following UNCTAD/UNDP country case studies are available from the UNCTAD Secretariat: 1994, The Interlinkages Between Trade and Environment: Thailand, Final Draft *mimeo*; 1995, Competitiveness and Environment in the Argentine Industry, *mimeo*; 1995, Trade, Environment and Development, Lessons From Empirical Studies: The Case of Brazil (Synthesis report), TD/B/WG.6/Misc.9; 1995, *Ibid*: The Case of Colombia (Synthesis report), TD/B/WG.6/Misc.6; 1995, *Ibid*: the Case of India (Synthesis report), TD/B/WG.6/Misc.7; 1995, *Ibid*: the Case of Philippines, *mimeo*; 1995, *Ibid*: The Case of Poland (Synthesis report), TD/B/WG.6/Misc.10,; 1995, *Ibid*: The Case of Zimbabwe (Synthesis report), TD/B/WG.6/Misc.8; 1995, Environment, International Competitiveness and Development: Lessons from Empirical Studies, TD/B/WG.6/10/Rev.1.

domestic demand for environment-friendly products in developing countries does not necessarily allow these producers to compensate the investments required by more demanding production methods. Moreover, environmental standards enforced in developed countries are not necessarily suitable for the protection of the environment in developing countries.

32. The competitiveness effects of environmental regulations may differ between small and medium scale enterprises (SMEs) and large firms. Adjustment to environmental requirements is generally more difficult for SMEs. In developing countries, SMEs account for a large share of exports but export only a small share of their total output. This may also impact on their capacity to adjust to environmental standards. In addition, the problems mentioned in the preceding paragraph are exacerbated in the case of SMEs, which often are family-run enterprises, located in urban areas with deficient infrastructure, working with obsolete technologies, and with a weak market and financial position. Moreover, some investments which would be required to comply with environmental standards and regulations, such as installations for recycling industrial waste or waste water treatment, may not be economical on a small scale. Thus, they have little scope to improve their productivity. The difficulties faced by SMEs in getting timely information on foreign standards and environmental regulations is a recurrent theme in the UNCTAD/UNDP case studies. These factors influence SMEs' ability to comply not only with environmental requirements, but also with quality and other similar requirements. The low quality of SMEs' products, for instance, is one of the major obstacles in expanding their exports. Fulfilling environmental requirements could lead to improved product quality, and in the long term, help to improve SMEs competitiveness.

33. So far, systematic empirical studies of the competitiveness effects of environmental measures have focused on the impacts of domestic environmental measures on domestic industries in developed countries. The current series of country studies by UNCTAD/UNDP is attempting to document the effects of foreign environmental polices on industries in developing countries, even though they do not try to provide a systematic assessment of the incidence of environmental measures on trade or on their impacts on developing countries. In UNCTAD's view it is important to note that existing literature on the relationship between environmental policies and competitiveness does not provide sufficient evidence to generalize any conclusions on the effects -- positive or negative -- of environmental policies, standards and regulations on competitiveness.

Packaging

34. UNCTAD/UNDP case studies indicate that the main difficulty associated with packaging regulations for developing country exporters is the uncertainty about what is allowed and what is not, and problems of knowing where to obtain the relevant information. Understanding and adapting to differing requirements among countries has also been reported as representing a handicap, and getting the information may be an expensive exercise. Producers in developing countries may also face technical and resource problems in conforming with packaging requirements. Producers show concerns that requirements such as recycled or recyclable content may result in packaging costs becoming high in relation to sales revenues, especially if they have to import packaging material so as to be able to subsequently export goods as has happened in the case of bulk packaging for Indian exports of footwear to Germany. This not only can increase export costs but also may harm prospects for the domestic packaging industry. Producers also mentioned difficulties in submitting packaging for evaluation and obtaining the necessary certification, especially if on-the-spot inspection of production and packaging facilities is required.

35. In the case of Colombia, exporters, particularly in the fruit industry, reported having at times incurred costs, delayed decisions, or having had to shift to other materials because of imprecise information about requirements in overseas markets. In some cases, they shifted to

materials which were more easily recyclable in order to meet new packaging requirements. The study reports that these initial problems were generally resolved after some time. The association of Colombian flower producers reported that, since adjustments required to meet a new regulation on packaging had been minor, compliance costs had not been significant; moreover, most of the costs in one major export market had been assumed by the importer, and the association had not heard of cases where flower exports had been rejected on account of packaging conditions.

36. The study on Thailand notes that the introduction of regulations in export markets regulating the amount of recycled plastic and the degradability of plastics used in packaging, for instance, is likely to affect many export sectors. The frozen fishery products processing sector has already been affected. Thai producers are now advised to anticipate such legislation in their key markets and begin looking for acceptable packaging materials.

37. In most cases, the cost of complying with packaging regulations has not been reported to be high (no more than 2 to 5 percent), and costs have been reduced after subsequent negotiation between exporting and importing countries. In some cases, small cost savings have been made.

Labelling

38. According to UNCTAD/UNDP studies, existing and projected eco-labelling programmes in developed countries raise concerns among developing countries since they increasingly address product categories which are of export interest to them, such as paper, textiles, footwear and tropical timber. This at times raises suspicion of possible protectionist intent. In these areas, eco-labelling tends to include PPM-related criteria such as those referring to efficiency in the use of energy and water and the treatment of waste water used in cotton growing for textile products, pesticide residues in cotton (which is difficult to control), the level of SO2 emissions in the production process for tissue paper products, or the level of water emissions of certain chemicals used in the footwear industry. Meeting eco-criteria of the importing country can involve developing country firms in having to make investments additional to those that are needed to meet national environmental objectives.

39. Although no empirical data are yet available on the costs of compliance for developing country producers, some case studies indicate that the costs of adjustment for firms that wish to comply with eco-labelling criteria might be significant. The costs involved in the use of specific chemicals and other raw materials, capital investments, as well as testing and certification are often cited. In the case of Indian leather products, for example, an estimate suggests that the cost of testing could be as high as 33 percent of the present export price. Large firms in developing countries which possess the financial and technological means to invest in environmental improvements may be able to qualify for an eco-label and thus recoup their investment by selling their products in premium markets. This possibility seems, however, to be out of reach for small and medium-sized firms which lack access to information, as well as capital and technology which would allow them to adjust their production to eco-labelling criteria.

40. Studies undertaken in Columbia and Brazil on the possible effects of an EU eco-label for exports of certain textile products (T-shirts and bed linen) point to similar conclusions. The study on Brazil notes that the degree of sensitivity varies from sector to sector, depending in particular on the size of the enterprise and the share of exports in total sales. Exports of T-shirts and bed linen to the European market are concentrated on a small number of large firms which generally received information on the eco-label from their European clients and are already making the required adjustments (one firm stated that 50 percent of the value of recent investments had been due to environmental requirements). Some of these firms declared that they would have difficulties in complying with specific criteria, such as those related to pesticides and chemical use

during cotton growing (Brazilian firms are increasingly importing cotton and it is difficult for them to certify that it is pesticide free), the use of dyes in the manufacturing process, waste water parameters and residue values in final products. Both studies express concern about the potential discriminatory effects of eco-labelling and consider that, while it may be possible for large firms to comply with eco-labelling criteria, compliance costs would make it very difficult for SMEs. The study of Brazil states that weak domestic demand for environmentally friendly products, especially in the textile sector where exports are relatively small compared to the domestic market, does not help firms to recover their incremental costs of production. The Colombian study indicates that the textile exporter concerned decided to divert sales elsewhere rather than deal with the requirements imposed by one private eco-labelling scheme in a major export market.

41. Brazilian producers of footwear consist of large firms and of SMEs and produce mainly for exports. The study, which analyzed national criteria for a footwear eco-label in the Netherlands, reports that in this sector difficulties arose from the fact that complying with the criteria for the label would require changes in the production process of leather. These adjustments would reduce the competitiveness of Brazilian products vis-à-vis other exporters. However, the study also indicates that for Brazilian exporters of footwear price competition remains the means by which they maintain their market shares. Finally, in the pulp and paper sector, Brazilian industry considered that the criteria for tissue products proposed under the EU eco-label programme discriminated against their exports by emphasising, *inter alia*, recycling in determining criteria regarding the consumption of renewable resources, while use of fast growing eucalyptus wood and good forest management technologies provide Brazilian industry with its comparative advantage.

42. A case study on Zimbabwe indicates that eco-labelling requirements in export markets are not perceived as a threat by most of the local paper industry whose environmentally friendly processes would qualify easily for eco-labels and could even affect this sector positively. A study of Thai textiles producers shows little concern about a German eco-label because they consider the market niche for such products is not sufficiently important to justify any change in their product standards. When pressed to export eco-textiles, these producers prefer to switch to other markets.

Product Standards

43. UNCTAD case studies suggest that food standards can have an important impact on developing country exports. Several OECD countries have recently enforced regulations limiting or banning residues of certain pesticides in fresh fruits and vegetables and in tea. Marine products are also affected by regulations banning residues of heavy metals, pesticides or antibiotics in fish and shrimps.

44. In India, for instance, the government banned 12 hazardous pesticides and restricted the use of some less hazardous ones after studying the impact of eco-regulations on Indian tea exports. Problems remain however in the area of testing where a lack of facilities represents an important handicap in producing eco-friendly tea.

45. Other environmentally sensitive products exported by developing countries include leather, textiles, and paper. Bans on the use of certain chemical agents for the conservation of leather and the use of certain dyes for textiles obliged producers to use substitutes, which may have the effect of raising production prices. In India, for instance, the costs of non-benzidine dyes required to meet international standards in the leather tanning sector were approximately three times higher than the costs of benzidine dyes currently in use. Indian exporters have also reported that the pentachlorophenol (PCP) ban in one export market raised the cost of tanning leather since the substitute (BUSAN 39) is reported to be ten times more expensive. Conversely, the Argentina

case study reports that producers did not find their costs increasing significantly in response to the PCP ban. India's tariffs on imported substitute chemicals on the one hand, and exchange rate factors in Argentina, may explain this difference. In India, SMEs, which account for 70 percent of total exports in the leather sector and 63 percent of textiles and garments exports, are likely to be particularly vulnerable to external regulations since they lack access to finance and technology which would allow them to make the necessary adjustments. In the textile and garments sector, for example, where about 60 percent of production costs for SMEs is accounted for by raw materials, replacing currently used dyes with eco-friendly dyes which are three times as expensive would make this sector uncompetitive, at least in the short run.

46. A survey made in Argentina suggests that in some cases, product standards have lower relevance than other indirect mechanisms in impacting on firms' environmental management decisions. Export oriented firms in the steel, tannery and pulp and paper sectors, three environmentally sensitive sectors, do not seem to have faced situations in which environmental measures have restrained their access to OECD markets. However, some direct pressures by their clients in those markets have been noted. These pressures resulted in some changes in the production process (for instance in the packaging and in the leather industry); the study concludes that, so far, these pressures have not reduced access to the relevant OECD markets and have been met without too many difficulties by large exporting firms. Both the case studies on Argentina and Brazil indicate that particular PPM-related requirements, for example in the context of eco-labelling, may have greater effects on trade and competitiveness than product regulations, even though compliance with the former is not mandatory.

47. The study on Zimbabwe indicates that foodstuffs is the export sector most likely to be affected by new standards, in particular if they extend to growing and processing methods. Difficult and sometimes costly testing and certification procedures are reported to be problematic, especially for small producers. The fact that there are differing phytosanitary standards between countries in this sector where products are homogenous is considered troublesome and the Zimbabwean industry questioned at times the scientific basis for certain environmental regulations in developed countries (in peanut butter, for instance). Environmental standards in developed countries are felt to be becoming more stringent over time, which causes concern for the future, in particular for producers of fresh fruits and vegetable as well as for beef exporters.

Unilateral trade restrictions with extra-territorial effects

48. UNCTAD/UNDP case studies indicate that some countries are concerned about the effects that unilateral trade restrictions with extra-territorial effects have on their exports. Colombia reports that its fishery sector has been affected by unilateral measures taken by the United States under the Marine Mammal Protection Act (MMPA) in order to compel the Colombian fleet to comply with certain fishing methods. The study estimated that compliance costs represented approximately 2.5 percent of the total annual operating costs for large exporters, and were likely to be much higher for small-scale producers. The study on the Philippines raises similar concerns. The embargo imposed in 1993-94 by the United States on Colombian imports of tuna fish is reported to have resulted in substantial losses for the fishing sector. For access to its shrimp market, the United States requires the use of Turtle Excluding Devices (TEDs) which are meant to minimize the by-catch of sea turtles. In this case, compliance costs are reported in the studies to be insignificant.

Measures based on Multilateral Environmental Agreements

49. MEAs can have trade and competitiveness effects irrespective of whether they contain trade provisions. UNCTAD's Ad Hoc Working Group on Trade, Environment and Development

recognized that the trade and competitiveness effects of MEAs are different for each agreement and change according to dynamic factors such as the rate of economic growth, availability of environmentally friendly technologies and substitutes, amendments to the MEAs, as well as the timely availability of financing to assist with adjustment costs. In addition, it is possible that if competitiveness effects exceed a particular threshold level they may inhibit the effectiveness of instruments used for achieving the objectives of the MEA.

50. Few developing countries produce ozone-depleting substances (ODS) controlled by the Montreal Protocol, and for those which do the Protocol provides them with a longer time period than developed countries for phasing-out ODS. The substitution of ODS technologies will nevertheless involve these countries in additional costs, and since the phase-out of ODS in their developed country export markets is taking place more rapidly than originally foreseen there is a premium on making the substitution as early as possible. Developing countries reliant on imports of products based on ODS technologies (such as refrigerators and air conditioners) are also facing adjustment costs, since it is becoming more difficult to find sources from which to import ODS to maintain those products and their obsolescence is being accelerated. Re-equipping the economy with substitute products based on non-ODS technologies can prove to be expensive.

51. The potential effects of the Basel Convention on trade and competitiveness, particularly after the recent decision by Parties to ban trade in wastes for disposal and recycling from OECD to non-OECD Parties, are likely to depend a great deal on which waste materials will fall under the ban. Limitations on trade currently in place under the Convention are reported in the UNCTAD/UNDP studies to be problematic for some countries. In Poland, the forest products and metallurgical industries are particularly affected by restrictions on waste exports and imports, and the study indicates that import limitations on waste paper and scrap iron are likely to lead to price increases of these secondary materials in the domestic market and, ultimately, to increased production costs. In other countries also, where the metallurgical industry is heavily reliant upon imports of scrap metal for recycling, the new trade ban may prove to be a cause for concern.

III. CONCLUSION

52. Environmental policies, standards and regulations have not as yet had a significant effect on international trade and do not seem to have constituted important barriers to market access. Particular attention must be paid however to the situation of SMEs in developing countries for which problems linked to environmental requirements may be exacerbated. Moreover, lack of information on projected or existing requirements seems to be at the source of many problems in developing countries. The degree of openness of the economy influences the capacity to adjust to environmental standards because of better access to information, inputs and technology. Also, it is generally more difficult to comply with foreign than with domestic standards, and foreign environmental standards are not necessarily suitable for the protection of the environment of the exporting country. The fact that developing countries are more and more enacting their own environmental standards may help to reduce the scope for trade friction in the future.