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TRADE AND ENVIRONMENT REVIEW

2003

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Foreword

The Doha Ministerial Declaration, and the Johannesburg Plan of Implementation adopted by the World Summit on Sustainable Development, reiterated the major role that trade can play in achieving sustainable development and reducing poverty. At the same time, there has been growing recognition, including in the context of preparations for UNCTAD XI, of the need to integrate environmental and social aspects into development strategies.

Developing countries, however, are apprehensive that the subject of trade and environment issues is driven by developed country Governments and non-governmental organizations from the north, on the basis of developed countries' producer and consumer preferences, circumstances and visions, without sufficient heed being paid to conditions in developing countries and the later's development priorities.

A new annual publication, the *Trade and Environment Review*, addresses this concern by tackling trade and environment issues from a development perspective. It also attempts to provide developing countries' Governments and civil society with a forum, in which to discuss their most important trade and environment issues and from which to influence the international agenda.

UNCTAD was prompted to launch an annual review dealing with issues at the interface of trade, environment and development for several reasons.

First, as tariff barriers and quantitative restrictions are dismantled, there is concern that product- and process-related requirements, including environmental and health requirements, are being unwittingly or intentionally used as technical barriers to trade, complicating market access and entry for developing country exporters. In many key export markets, environmental requirements are becoming more stringent, frequent and complex. They are increasingly viewed as decisive tools in the international competitiveness race and need to be dealt with as an integral part of both business strategies in companies and economic strategies in developing countries (i.e. eco-positioning in addition to price, quality and brand positioning) in order to defend and expand international market shares. At the same time, enhanced environmental quality and sustainable use of natural resources are key elements in promoting the use of environmentally preferable products and services.

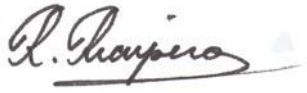
Second, there is a need to identify development-friendly solutions, including through trade incentives, to address the world's growing environmental problems.

Third, for the first time in multilateral trade negotiations, trade and environment issues were included in the round of WTO negotiations launched at Doha in November 2001. This inclusion requires a thorough analysis of those subjects and a clear vision of the objectives of the negotiations for each developing country WTO Member. Furthermore, as trade and environment will be part of the "single undertaking" at the end of the negotiations, developing countries need to examine the role that trade and environment issues could play in the final outcome of the Doha negotiations.

Fourth, although it constitutes a negotiating subject in its own right, trade and environment cuts across many WTO negotiating subjects, such as services, agriculture, non-agricultural market access and trade-related intellectual property rights. As such, these issues must be addressed in the broader context of an agenda for sustainable development, including by focusing on such issues as finance, technology and strengthening productive capacities.

Lastly, creating a mutually supportive relationship between trade and environment requires intensive policy coordination and stakeholder consultations at the national level and greater policy coherence at the international level.

It is hoped that, by addressing these and other core issues, the *Trade and Environment Review* will contribute to informed national decision-making and intergovernmental discussions on trade, environment and development.



Rubens Ricupero
Secretary-General of UNCTAD

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All remaining errors are the authors' own. The views expressed in this *Review* should not be attributed to UNCTAD or its member states.

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Acronyms

AB	Appellate Body (WTO)
ANAM	National Environmental Authority, Panama
APC	air pollution control
APEC	Asia-Pacific Economic Cooperation
APROSAC	Asociación para la Promoción del Saneamiento Ambiental en Comunidad
BC	Basel Convention on the Control of Transboundary Movement of Hazardous Wastes
BOT	build-operate-transfer
BTFP	BioTrade Facilitation Programme
CAFTA	Central American Free Trade Agreement
CBD	Convention on Biological Diversity
CBTF	UNEP-UNCTAD Capacity-Building Task Force on Trade, Environment and Development
CCAD	Central American Commission for Environment and Development
CDM	Clean Development Mechanism
CESIGMA	Company Specialized in Engineering, Geographical and Environmental Solutions, Spain
CFCs	chlorofluorocarbons
CITES	Convention on International Trade in Endangered Species
CITMA	Ministry of Science, Technology and Environment, Cuba
CMEC	Carbon Market E-Learning Centre
CMP	Carbon Market Programme
COPs	Conferences of the Parties
CPC (Prov)	Provisional Central Product Classification
CTE	Committee on Trade and Environment (of the WTO)
CTESS	Committee on Trade and Environment Special Session
CTF	Consultative Task Force on Environmental Requirements and Trade
CTS	Council on Trade in Services
CTSSS	Council on Trade in Services Special Session
DFID	UK Department for International Development
DITC	Division on International Trade in Goods and Services, and Commodities, UNCTAD
DMC	Doha Ministerial Conference
DMD	Doha Ministerial Declaration
DSM	dispute settlement mechanism
EC	European Commission
ECLAC	Economic Commission for Latin America and the Caribbean
EGS	environmental goods and services
EPPs	environmentally preferable products
ESM	environmentally sound management of hazardous waste
ESTs	environmentally sound technologies
EU	European Union
Eurostat	Statistical Office of the European Communities
EVSL	Early Voluntary Sectoral Liberalization
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
FIELD	Foundation for International Environmental Law and Development
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GEF	Global Environment Facility

HS	Harmonized Commodity Coding and Description System
IDB	Inter-American Development Bank
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organization
IPRs	intellectual property rights
ISCO	International Standard Classification of Occupation
ISO	International Organization for Standardization
ITA	Information Technology Agreement
JICA	Japan International Cooperation Agency
JWPTE	OECD Joint Working Party on Trade and Environment
LDCs	least developed countries
MARENA	Ministry of Environment and Natural Resources, Nicaragua
MEA	multilateral environmental agreement
MFN	most favoured nation
MIFIC	Ministry of Development, Industry and Commerce, Nicaragua
MINCEX	Ministry of External Trade, Cuba
MoP	Meeting of Parties
MP	Montreal Protocol on Substances that Deplete the Ozone Layer
NGMA	Negotiating Group on Market Access
NGO	non-governmental organization
NTBs	non-tariff barriers
NWFPs	non-wood forest products
ODS	ozone depleting substances
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PIC	Prior Informed Consent (Rotterdam Convention on)
PMAA	Programa de Manejo y Adecuación Ambiental
POPs	persistent organic pollutants
PPM	process and production method
PPPs	public-private partnerships
R&D	research and development
S&D	special and differential (treatment)
SANAA	Servicio Nacional de Acueductos y Alcantarillados
SEMARN	Secretaría de Estado de Medio Ambiente y Recursos Naturales
SEREX	Secretaría de Estado de Relaciones Exteriores
SPS	sanitary and phytosanitary measures
STOs	specific trade obligations
***Sui generis* systems**	Option for protecting plant varieties (allowed under the exceptions to ruleson IPRs in Article 27.3 (b) of the WTO TRIPs Agreement) or traditional knowledge and practices
TBT	technical barriers to trade
TED TC/CB	UNCTAD Trade, Environment and Development Technical Cooperation and Capacity-Building Programme.
TK	traditional knowledge
TNCs	transnational corporations
TRIMs	trade-related investment measures
TRIPS	trade-related aspects of intellectual property rights
UAE	United Arab Emirates
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development

UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention for Climate Change
USTR	United States Trade Representative
WCO	World Customs Organization
WIPO	World International Property Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

Introductory Observations

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This is a new publication on a new subject and in a new format.

Trade and environment emerged as an issue of academic and public concern in the 1980s and has gained prominence in national policy-making and international conferences since the 1990s, in particular since the 1992 Rio Earth Summit, which adopted Agenda 21 and the Rio principles.

Trade and environment is a complex and cross-cutting subject, which is still relatively new. In recent years, the international trade and environment debate has moved from emphasis on a situation of inherent conflict between these two areas to a greater political preparedness to identify and seize synergies and to make trade an engine of sustainable development. This is reflected in the Doha Ministerial Declaration (DMD) of the WTO and the World Summit on Sustainable Development (WSSD).

Nevertheless, in the WTO context, the subject is still perceived by many developing countries as being driven by the developed countries. This impression has been reinforced rather than diffused by, on the one hand, the last-minute inclusion of some specific trade and environment issues in the negotiating mandate of the DMD. On the other hand, many developing countries are wary of the intent of the subject's proponents to "mainstream" trade and environment and make the issue an integral part of the WTO negotiations and discussions on agriculture, services, market access for non-agricultural products and trade-related intellectual property rights.

It is now widely recognized that trade and environment are inextricably linked. International trade drives changes in national patterns of production of goods and services, which in turn impact on the domestic environment (through scale, structural and dynamic efficiency effects of trade). This impact is further influenced by domestic environmental regulations. As an engine of growth, trade can also provide the necessary resources for environmental conservation.

Conversely, the environment and environmental concerns impact on trade. The natural environment is the basis of production for many exported products, particularly from developing countries, and an important input to their long-term sustainable development. Growing environmental concerns, as enshrined at the international level in multilateral environmental agreements (MEAs) and at the national and local level in environmental regulations and standards as well as consumer preferences for "greener" products, increasingly influence trade patterns.

It is important to give the trade and environment debate in the United Nations, at the WTO and elsewhere a constructive and practical spin that increasingly focuses on issues of key developmental concern to developing countries, such as market access; sustainable resource management, including material and energy efficiency, trading opportunities for environmentally preferable products and services; the protection of biodiversity and traditional knowledge; and the management of hazardous substances through an effective package of enabling, and where necessary, trade measures in MEAs.

This new annual *Trade and Environment Review* will make a specific contribution in this regard by focusing on themes that are of particular developmental interest to developing countries. Over the years, the *Review* intends to provide UN member countries with a forum for dialogue aimed at assisting developing countries in shaping their specific interest in the international trade and environment debate and becoming more proactive

on specific subjects. By way of illustration, some of the key issues that might bear on the selection of themes for the *Review* in the next few years include the five described below.

First, changing market exigencies will increasingly make eco-positioning of companies as important in international markets as price- and brand-positioning. Effectively responding to, or even better, anticipating ever more stringent environmental and health requirements in export markets will be a key challenge for developing country exporters. Success or failure in this regard will determine whether shares in export markets can be maintained. The complexity of environmental and health standards increasingly requires a strategic and proactive response by exporting developing countries, rather than a piecemeal, reactive and short-term approach. This raises a number of policy issues, both at the national and international level, and supply capacity constraints such as poor insitutional, technical and infra-structural facilities. Consumer preferences may also offer opportunities for the export of environmentally preferable products from developing countries, although these markets may remain promising niches for some time.

Second, many developing countries rely on resource-based products or raw materials for their exports. Some developing countries are both key producers and consumers of commodities. Rapidly industrializing countries have become key global consumers of raw materials and natural resources, and this makes their economic growth very material-intensive and also potentially pollution-intensive. Sustainable resource and cost-efficient material management are of key importance, not only for exports, but also for sustainable national development.

Third, access to environmentally sound technology and knowledge to use it effectively is increasingly becoming a very important factor of sustainable national development and export competitiveness. International rules on intellectual property rights and foreign investment should not disadvantage developing countries in gaining access to important technological achievements. Developing countries also need assistance to evaluate the risk posed by recent technological advances in areas such as agricultural biotechnology, aimed at enhancing transparency in international trade of such products.

Fourth, global environmental problems such as climate change, desertification or loss of biodiversity have a higher relative impact on developing countries and in particular the poor. Poverty, in turn, fuels environmental degradation, for example in areas such as desertification and biodiversity loss. Developing countries therefore have a great interest in fruitful international cooperation on addressing global environmental problems as well as on practical steps in combating poverty. The preservation, protection and use of traditional knowledge for sustainable development is but one area that deserves urgent attention in this regard.

Fifth, the DMD, for the first time in WTO negotiations, called for immediate negotiations on certain trade and environment issues (i.e. the relationship between specific trade obligations in MEAs and WTO rules; procedures for regular information exchange between the secretariats of MEAs and relevant WTO committees, and the criteria for granting observer status; and trade liberalization in environmental goods and services). The DMD also asked the WTO Committee on Trade and Environment to pay particular attention to three other issues and make recommendations, where appropriate, with respect to future action, including the desirability of negotiations. These three issues are: (i) the effect of environmental measures on market access, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development; (ii) the relevant provisions of the TRIPS Agreement; and (iii) labelling requirements for environmental purposes. In the near future, the *Trade and Environment Review* will be a forum to discuss these issues and assist developing countries in the further WTO negotiations and discussions. This first issue of the *Review* already focuses on two of the above-mentioned negotiating subjects.

In short, the *Review* intends to make a contribution to enhance developing countries' awareness, empirical and conceptual knowledge of trade, environment and development issues and thereby enable them to put their stamp on the international trade and environment debate, giving it the developmental spin and direction it deserves. To help achieve this objective, the *Review* also provides policy makers and civil society in developing countries with an opportunity to contribute to the international debate.

Each issue of the *Trade and Environment Review* will fall into three separate parts. The first part will contain lead articles on one or two key issues in the current trade and environment debate. The second part will contain commentaries by salient experts on the lead article(s). These commentaries are expected to reflect the diversity of arguments on a particular subject and should stimulate active debate with stakeholders. The final part of each *Review* will provide short summaries of the main technical cooperation and capacity-building activities of the UNCTAD secretariat in the area of trade, environment and development issues. This part is intended to flag topics and activities about which the reader will find more detailed information on websites of the Trade, Environment and Development Programme of UNCTAD.

The UNCTAD secretariat will also establish an on-line "readers' forum" on the trade, environment and development website at www.unctad.org/trade_env/, where individual views and observations on articles and commentaries, as well as inquiries about programme activities outlined in the final part of the *Review*, can be posted.

The UNCTAD secretariat intends to use the contents of and feedback on the *Review* in its many analytical, technical assistance and capacity-building activities, in particular in training workshops and national and regional policy dialogues. This will enhance the catalytic function of the *Review* and increase the number of its "beneficiaries".

This first issue of the *Trade and Environment Review* debates two issues that are part of the current WTO negotiations: the relationship between specific trade obligations set out in MEAs and WTO rules; and the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services. These issues have been chosen because many developing country negotiators need information and analysis on them. Recent WTO negotiations have been very legalistic and entrenched in debates on the nature of the negotiating mandate, definitions and possible forms of outcome. The three lead articles on the two issues and the ensuing debate focus on the developmental ramifications for developing countries, rather than on the legal issues, and make recommendations on required action at the national level, through technical assistance/capacity building, and at the international level, including the WTO negotiations.

The first lead article deals with the relationship between specific trade obligations (STOs) set out in MEAs and existing WTO rules, looked at from a developing country perspective. It argues that developing countries should not lose sight of the fact that trade measures are generally an integral part of a package of measures and that negotiations and discussions on STOs need to pay full attention to positive/supportive measures. In fact, there is a certain balance and interplay between the measures of the package. Restrictive trade measures can be accompanied by supportive measures or enhanced flexibility elements that make the whole package acceptable to a developing country Party. If properly used, the balance and interplay between the various measures can also help address the enhanced differentiation among developing country Parties. In short, developing countries should advocate a practical way forward that pays due attention to the development dimension of the package of measures taken by relevant MEAs.

The *Review* then presents two articles on negotiations on trade liberalization in environmental goods and services (EGS) as mandated in paragraph 31(iii) of the DMD. The first of these emphasizes the risks of reading too much or too little into the text of the negotiating mandate. The latter is considered by some as having the potential to break the deadlock on process and production methods (PPMs), while others treat it as a negotiating chip, to be traded off against other issues in the single undertaking. In between these views, there are a variety of ideas that may influence the scope for and modalities of the negotiations at the WTO. The article foreshadows some scenarios for these negotiations and raises issues that may have systemic implications or go beyond trade diplomacy, such as the link, or absence thereof, between supply of and demand for EGS, the negotiations on goods and the negotiations on services, the negotiations and domestic regulations on EGS, market access and public services, exclusive supplier rights and non-discrimination, and technological and regulatory capacity.

That article is complemented by a second one on EGS, the third lead article in this *Review,* which presents some findings of ongoing UNCTAD capacity-building activities in selected Central American and Spanish-speaking Caribbean countries. These countries have identified the implications of trade liberalization and strengthening of domestic capacities in EGS as a priority within the context of a project entitled "Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues". The article examines the initial results of case studies and policy dialogues aimed at filling information gaps and enhancing understanding of the structure and characteristics of the environmental services sector in beneficiary countries; relevant national legislation; and present and potential EGS markets. It also examines approaches — from a national perspective — to WTO negotiations on EGS trade liberalization and makes recommendations for further work.

Both EGS articles, while recognizing the potential benefits of EGS liberalization for developing countries, highlight the importance of complementary measures and greater policy coherence (at the national and international levels) as well as the need to identify environmental goods and services of export and import interest to developing countries.[1] UNCTAD's wider efforts in supporting developing countries in the area of EGS are described in the third part of the *Review*.

The *Review* illustrates the synergies in UNCTAD's three-pronged approach to promoting consensus and assisting developing countries in addressing key trade and sustainable development issues, namely policy analysis, intergovernmental work and capacity building. Indeed, the in-house policy analysis and research carried out by national experts in developing countries in th econtext of UNCTAD's technical cooperation programme as reflectd in teh two lead articles on EGS, have contributed to, and benefited significantly from, the Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, held in Geneva, from 9 to 11 July 2003.[2] Such synergies greatly enhance the continuity and effectiveness of work carried out in this and other areas.

Notes

[1] India, for instance, has already conducted such an analysis. China is planning a similar exercise in the first half of 2004 with the assistance of UNCTAD.

[2] See in particular "Environmental goods and services in trade and sustainable development", note by the UNCTAD secretariat (TD/B/COM.1/EM.21/2), 5 May 2003 and Report of the Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, (TD/B/COM.1/59 and TD/B/COM.1/EM.21/3), 27 August 2003.

ARTICLE 1:
SPECIFIC TRADE OBLIGATIONS IN MULTILATERAL ENVIRONMENTAL AGREEMENTS AND THEIR RELATIONSHIP WITH THE RULES OF THE MULTILATERAL TRADING SYSTEM – A DEVELOPING COUNTRY PERSPECTIVE

1 Chapter

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A. Introduction

This paper intends to facilitate the discussion on approaching, from a developing country perspective, the negotiating mandate contained in paragraph 31 (i) of the Doha Ministerial Declaration (DMD) of the World Trade Organization (WTO) aimed at clarifying the relationship between specific trade obligations (STOs) in multilateral environmental agreements (MEAs) and WTO rules. Several studies[1] have already explored hypothetical legal tension or conflict between these agreements. This paper places the focus on (i) delineating the specific objectives of developing countries in the negotiations and discussions, and (ii) conducting a comparative analysis of three MEAs with STOs (i.e. the Montreal Protocol, the Convention on International Trade in Endangered Species and the Basel Convention), with a view to reviewing the clarity, effectiveness and efficiency of the STOs that they contain and to identifying areas, where their compatibility with WTO rules may need to be clarified. In conclusion, the paper makes a few specific suggestions for developing countries on how to proceed in the discussion with a methodological and systematic basis that may help to accomplish the mandate under paragraph 31 (i).

B. Background

1. The need for international cooperation

Many environmental problems have international or global dimensions and cannot be successfully addressed through national policies alone

Transboundary and global environmental problems are of international concern, and it is increasingly recognized that they can be effectively addressed through international cooperation within the framework of MEAs. Although international environmental degradation is not a new phenomenon, awareness of the problem and attempts to build international cooperative frameworks to deal with it are recent.

Globalization requires new integrated approaches to define effective policies in all the relevant socio-economic dimensions. Many environmental problems, such as transboundary air/water pollution or resource over-exploitation, have international or global dimensions and cannot be successfully addressed through national policies alone. For transboundary problems, international cooperation is required in order to achieve effective policies for pollution abatement or to prevent resource depletion. Such cooperative approaches can also ensure that, from an economic point of view, there is some levelling of the competitiveness playing field for economic agents in countries that are

Parties to such agreements. An increased number of agreements have been negotiated, signed, ratified and implemented[2] in order to consolidate international cooperation to address environmental problems.

MEAs are instrumental in addressing environmental concerns at the global level, such as ozone depletion, climate change, endangered species of wild fauna and flora, or the trafficking of hazardous wastes or chemicals. In 1992, the Rio Declaration stated as follows in its Principle 7: "*States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command*".[3]

The economic and social effects of most global and transboundary environmental problems tend to be more direct and severe in developing countries in the light of limited abatement or adjustment capacities, and the special link between poverty and environmental impact.[4] Also, the economic and social costs of environmental disasters and global problems are higher.[5] Furthermore, if the costs of abatement or adjustment measures are borne entirely by the country implementing them, they may be unaffordable for developing countries. Therefore, developing countries have an objective interest in cooperative approaches to address transboundary or global environmental problems within the framework of MEAs since they generally provide financial, technical and other support. Besides this general observation, developing countries can derive a twofold specific advantage from participating in MEAs:

- Structural: The implementation of measures that are benign to the environment while fostering local development can induce structural economic and social reforms that will remain as a heritage and act as a motor for further endogenous economic growth, compatible with local socio-ecological conditions.
- Linked effects: Developing countries will benefit from supportive measures that contribute to building the necessary institutional, technical and managerial capacities to meet MEA objectives.

2. Trade-related MEAs

According to recent UNEP and WTO surveys,[6] of the 238 current "International Treaties and Other Agreements in the Field of the Environment" only 38 (i.e. 13 per cent) contain trade-related measures under which trade provisions have subsequently been adopted by Parties in furtherance of the objectives of the agreements. Selected examples of global accords are the Montreal Protocol (MP), the Basel Convention (BC), the Convention on International Trade in Endangered Species (CITES), and the Persistent Organic Pollutants (POPs) and Prior Informed Consent (PIC) Conventions, as well as the Bio-safety Protocol of the Convention on Biological Diversity (CBD). Conceptually, the above-mentioned MEAs use trade measures, as appropriate, to help attain their objectives. These should not, however, be confused with MEAs that may have significant trade effects, without employing trade measures in themselves. The latter concerns, for example, the UNFCCC and its Kyoto Protocol, which may have significant trade implications in areas such as trade in energy-intensive plant and equipment, consumer products, fossil fuels and energy efficiency services, and internationally tradeable greenhouse gases' emission reductions.[7]

From an environmental perspective, trade-related measures should be used when they are the most or the only effective means to achieve a necessary, and MEA-mandated, objective. From a trade perspective, those measures should be proportional, least trade-restrictive, not a disguised form of protectionism and supported by a large majority of MEA Parties. A key synthesis study on the subject by the Organisation for Economic Co-operation and Development (OECD) concludes that "trade measures can be an appropriate policy measure to use *inter alia* (a) when the international community agrees to collectively tackle and manage international trade as a part of the environmental problem, (b) when trade controls are required to make regulatory systems comprehensive in their coverage, (c) to discourage free-riding, which can often be a barrier to effective international cooperations, and (d) to ensure compliance with the MEA" [8].

It is also important to analyse the key reasons for resorting to trade measures in MEAs. This will facilitate the task of determining whether the employment of trade measures is indeed the most effective and efficient policy instrument to deal with the matter at issue. Trade measures in MEAs are normally used in situations in which:

- Markets are imperfect and significant information deficiencies or asymmetries exist;
- Policy failures need to be corrected; or
- Leakage or free-riding needs to be discouraged.

Most MEAs address the first issue, for instance CITES or the BC. Some fishery agreements partly attempt to correct policy failures, for instance those caused by fishery subsidies.[9] The MP contains trade measures to discourage leakage or free riding.[10]

Several MEAs with trade measures have multiple objectives, to all of which trade measures might not be best suited.

Corrective instruments directly linked to the source of the environmental problem are the first-best option.[11] However, the link between particular objectives of MEAs and specific trade measures used in the agreements is not always clear-cut. Several MEAs with trade measures have multiple objectives, to all of which trade measures might not be best suited. The BC, for instance, aims not only at the minimization of transboundary movements of hazardous wastes, but also at waste avoidance and waste reduction at the point of generation. While trade measures might be well suited to the former, they are not the most effective tool for the latter. Similarly, in the context of CITES, there are often several factors that heighten the risk of species extinction. International trade might be one cause, but others, such as domestic trade, loss of natural habitat, introduction of new species, over-exploitation through domestic commercial and subsistence use, pollution and global environmental change, might be equally or even more important. CITES, however, alleviates stress on endangered species arising from one source only, namely demand pressures transmitted through international trade. Although clearly required, in practice it is often difficult to establish a causal relationship or attribute a particular part of the risk of extinction to international trade.

Trade measures in MEAs take a number of forms, mainly the following:

- Reporting requirements on the extent of trade of a particular product/item;
- Labelling or other identification requirements;
- Requirements related to notification and consent procedures;
- Targeted or general export and/or import bans; and
- "Market transformation measures" such as taxes, charges and other fiscal measures, and non-fiscal measures such as government procurement.[12]

3. Packages of measures and the particular role of supportive measures in MEAs

Trade measures are usually part of a package of measures that include non-trade measures and supportive measures. In the end, it is the effectiveness and also the efficiency of the package, rather than one measure that are important.

Trade measures are usually part of a package of measures that include non-trade measures (such as production/consumption quotas or information requirements) and supportive measures – often also called positive or compliance assistance measures (such as financial and technical support, training and technology transfer). In the end, it is the effectiveness and also the efficiency of the package, rather than one measure (for instance, the trade measure) that are important. Furthermore, supportive measures are often linked to trade measures to mitigate their implementation and economic adjustment costs in developing countries. Supportive measures recognize the fact that the non-compliance of developing countries is often the result of a lack of compliance capacity (i.e. weak institutional, technical and managerial capacities), rather than lack of political will. Therefore, an unbalanced focus of the debate in the Committee on Trade and Environment (CTE) and elsewhere on trade measures only is not in the interest of most developing countries.[13]

Positive measures[14] include technical assistance and capacity building as well as the provision of financial assistance, *inter alia* to help meet incremental costs in achieving international environmental goals set by MEAs. The term *positive measures* has been extensively used in post-UNCED analyses and intergovernmental deliberations in UNCTAD, WTO and the UN Commission on Sustainable Development. Positive measures include not only mechanisms to promote full participation and compliance on the part of all Parties to MEAs, but also measures that could be used to encourage a dynamic process of continuously improving environmental performance, which might go beyond the obligations in MEAs.[15]

Positive measures have become an increasingly common feature of MEAs for several reasons. Whilst the environmental objectives of MEAs have received broad public support, it has been increasingly recognized that MEAs involve important economic and developmental issues, and that compliance costs may differ widely across developed and developing country Parties, thus raising issues related to burden sharing and equity. In this context, by attempting to give full consideration to principles such as equity and common but differentiated responsibilities, positive measures promote the participation and international cooperation needed for the implementation of MEAs.

There are a number of reasons for designing a package of positive/supportive measures that complement trade-related measures in MEAs:

- Divergent levels of development, technological profiles, market composition and trade intensities among developing countries;
- Lack of information on the underlying economics behind the use of trade measures;
- Lack of financial resources for investment in environmentally sound technologies and insufficient incentives for encouraging such investment;
- Overwhelming presence of the informal sector in developing countries with little technological and financial capacity;
- The possibility that trade measures might imperfectly address the root cause of the environmental problem in developing countries.

In discussions in the CTE, the issue of positive measures has emerged from two different perspectives:

- Positive measures can reduce or obviate the need for trade measures by offering alternative policy instruments. Where trade measures are, nevertheless, deemed necessary, positive measures can be used as part of a policy package that takes

account of the different interests of Parties and that, wholly or partly, mitigates some undesirable effects of trade measures.

- Positive measures can be useful for handling the potential conflicts between efforts to promote the transfer of environmentally sound technologies under MEAs and multilateral trade rules on trade-related aspects of intellectual property rights (TRIPS) that might restrict such transfer on favourable terms.

In practice, most positive measures could not yet be used or invoked with the required vigour, mostly because of a lack of funding and the fact that they are not mandatory, although there are some success stories such as the Multilateral Fund of the MP.[16] Inadequate funding hampers the effective implementation of the agreements, including the implementation-related support needed by developing countries and countries in transition. It should be kept in mind that a reciprocity clause included in negotiations of MEAs could help developing countries to link their compliance with the MEA to the compliance of developed countries with specific commitments on positive measures. In fact, strict reciprocity was built into the UNFCCC, the MP and the CBD, making the implementation of agreed obligations by developing countries dependent upon the effective implementation by developed countries of the financial cooperation and transfer of technology provisions (Article 5.5 of the MP, Article 20.4 of the CBD and Article 4.7 of the UNFCCC).[17] However, the MP is the only MEA with trade measures that embodies the reciprocity principle.

In some cases, provisions on positive measures and their effective implementation could be a quid pro quo for developing countries to enter into new commitments. Whilst positive measures have not always been effectively implemented, innovative approaches to positive measures may be politically attractive in the light of their potential to reduce the costs of achieving the environmental objectives of an MEA. Innovative approaches focus on instruments or mechanisms that address specific interests and concerns of Parties or stakeholders, make creative use of market-based policy tools and harness new sources of financing for positive measures. Innovative approaches include such mechanisms as partnership arrangements for funding and technology transfer, multi-stakeholder and integrated approaches, and tradable emission permits to promote the involvement of the private sector and civil society in achieving the objectives of MEAs.

Several MEAs with trade measures recognize that there may be compliance problems and costs, in particular for developing country Parties. Various positive/supportive measures have therefore been incorporated to reduce such costs. It is thus very important for developing countries to be aware of their own needs and capacities in order to negotiate the conditions, including on positive measures, under which they will fully participate in MEAs and agree to the use of trade measures.

4. Enhanced differentiation among developing countries

Although trade-related measures or effects of MEAs are not per se discriminatory in nature, their effects and adjustment costs are not uniform but rather depend on the stage of development, technological profiles and trade intensities of countries, as well as on the relative weight of concerned sectors in the economy of an affected country. Distributional issues are at the origin of most conflicts when defining the burden sharing of MEA obligations.[18]

The increasing differentiation among developing countries has a significant bearing on the selection, design and implementation of trade measures in MEAs. In the light of

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the different stages of development and industrialization, developing countries fall into a continuum of interest groups, with different developmental priorities. This needs to be duly reflected by MEAs in shaping instruments, including trade measures that are sufficiently flexible in accommodating different interests. For instance, where there is a severe lack of enforcement, and technical and administrative capacities, stringent trade measures might be best suited for least developed countries (LDCs) or small island developing countries to prevent the import or dumping of hazardous products or substances, whereas a more structured approach might be required for rapidly industrializing countries.

With regard to different levels of industrialization, it also needs to be borne in mind that many rapidly industrializing countries have a profile of "dynamic" sectors that differs very much from the post-industrialization stage of the economy in most developed economies. Several pollution-intensive sectors are among the most "dynamic" in such developing countries, whereas they are "sunset" industries in many developed countries. In recent years, the environmental community in developed countries has targeted the reduction or removal of sources of pollution, including through the creation of MEAs, which are particularly difficult for rapidly industrializing countries to meet, for example in the area of hazardous chemicals management. Although technological leap-frogging by developing countries might attenuate some adverse environmental effects, the structurally different environmental requirements in developed and rapidly industrializing (developing) countries are a potential source of concern that can lead to tensions over the objectives and tools of concerned MEAs.

One might argue that on the basis of effective national policy coordination, developing country Parties should be able to articulate their specific needs or developmental priorities in the context of MEA negotiations. However, such attempts may run the risk of being misinterpreted by some developed country Governments and Northern non-governmental organizations (NGOs) as a derogation from the objectives of the MEAs or as an attempt to create loopholes in the agreements. Like other environmental accords, MEAs with trade measures should adapt their provisions over time to reflect such divergent needs through a combination of (i) revising certain too stringent or inflexible instruments, (ii) allowing more flexibility in existing tools, (iii) creating customized solutions for certain groups of countries, or (iv) enhancing the quantity and/or quality of positive/supportive measures. Lack of dynamics in this regard might lead to tensions with WTO rules.[19] As a rule of thumb one can probably say that the lower the real value of supportive measures for developing country Parties in MEAs with trade measures, the greater the need to allow for more flexibility elements in the accords to accommodate different developmental requirements and priorities.

C. Issues arising from the wording of the Doha mandate

The mandate in paragraph 31(i) of the WTO's DMD calls for negotiations on "the relationship between existing WTO rules and *specific trade obligations set out in MEAs*. The negotiations shall be limited in scope to the applicability of such existing WTO rules as *among Parties to the MEA* in question. The negotiations shall not prejudice the WTO rights of any Member that is not a Party to the MEA in question". The text in paragraph 31(i) needs to be read in conjunction with parts of the provisions in paragraph 32, which stipulate that "the negotiations carried out under paragraph 31(i) and (ii) shall be compatible with the open and non-discriminatory nature of the multilateral trading system, *shall not add to or diminish the rights and obligations of Members under existing WTO agreements, in particular the Agreement on the Application of Sanitary and*

Phytosanitary Measures, nor alter the balance of these rights and obligations, and *will take into account the needs of developing and least-developed countries*" (emphasis added).[20]

1. The meaning of specific trade obligations set out in MEAs

From the wording above, it is obvious that the WTO Members did not intend to address under paragraph 31(i) the general relationship between trade measures for environmental purposes in MEAs and existing WTO rules.[21] Rather, negotiators selected the phrase "specific trade obligations". What does this mean?

Conceptually, the box below, based on the European Commission (EC) submission to the first Special Session of the CTE (CTESS),[22] depicts the various groups of trade measures that have so far been taken and implemented under existing MEAs.

The reference to "*specific trade obligations*" in the Doha mandate seems to limit the negotiating mandate to provisions that are explicitly provided for and mandatory under MEAs, namely the first group in the box below. All non-mandatory trade measures, non-trade obligations (e.g. labelling) and non-STOs in MEAs appear to be excluded.[23] This interpretation seems to acknowledge a distinction between specific trade measures, which are taken within an MEA and are mandatory, on the one hand, and trade measures taken by Parties *pursuant* to the MEA, i.e. consequential to the "obligation de résultat" of the MEA, on the other hand (often also referred to as "discretionary trade measures"). The latter can be, but do not necessarily have to be, shaped by the MEA.

Clusters of trade obligations under MEAs

According to the EC, there are four clusters of trade obligations under MEAs:

1. Trade measures explicitly provided for and mandatory under MEAs.
2. Trade measures neither explicitly provided for nor mandatory under the MEA itself, but consequential to the "obligation de résultat" of the MEA. This category covers cases where an MEA identifies a list of potential policies and measures that Parties could implement to meet their obligations.
3. Trade measures not identified in the MEA, which has only an "obligation de résultat", but that Parties could decide to implement in order to comply with their obligations. In contrast to the previous category, the MEA does not list potential policies and measures, so countries have greater scope regarding the exact nature of the measures they might decide to deploy to reach the objectives of the MEA.
4. Trade measures not required in the MEA, but which Parties can decide to implement if the MEA contains general provisions stating that Parties can adopt stringent measures in accordance with international law. In some cases, the MEA may explicitly recognize the right of Members to apply specific trade measures.

Although this categorization seems to be clear at first glance, some MEAs have STOs that might somewhat blur this line of demarcation. The BC, for instance, stipulates in Article 1.1(a) specific categories and characteristics of waste that make an individual waste hazardous under the Convention, i.e. at the multilateral level. However, Article 1.1(b) adds to this list any waste that is defined as hazardous by the domestic legislation

of the Party of export, import or transit. This inclusion implies that unilateral decisions on the definition of hazardous waste are automatically made part of the multilateral definition and the resulting STOs of the Convention.

Similarly, pursuant to Article XIV (1) of CITES, the Convention shall in no way affect the right of Parties to adopt (a) stricter domestic measures regarding the conditions for trade, taking, possession or transport of specimens of species included in Appendices I, II and III, or the complete prohibition thereof; or (b) domestic measures restricting or prohibiting trade, taking, possession or transport of species not included in Appendices I, II or III.

Also at issue is whether decisions of the Conferences of the Parties (COPs) of MEAs, which may contain STOs or further specify modalities or procedural aspects for the implementation of STOs, should form part of the mandate of the negotiations. Malaysia, in its submission TN/TE/W/29, concurs that the phrase "as set out" is significant in this regard. In Malaysia's view, only annexes, protocols and amendments to MEAs adopted by Parties, and where they have been ratified by the broader membership, would fall within the mandate of the negotiations. Conversely, decisions and resolutions of COPs that are not set out in MEAs are not an integral part of the MEA itself and, therefore, would fall outside the mandate. Before the Cancun Ministerial Conference, the majority view in the CTESS debate tended to be restrictive. COP decisions would only create STOs if (i) on their own, they create STOs in separate annexes, protocols or amendments, subject to ratification by Parties, and (ii) they qualify modalities or procedural aspects or give interpretative decisions of STOs set out in the body of the MEA.[24]

Finally, WTO Members differ on the specific scope of STOs. The United States, for instance, includes in its definition of STOs all obligations set out in MEAs that had to be fulfilled for trade to take place, whereas India confines STOs to those obligations directly related to the actual trade.[25]

2. Definition of MEAs covered under paragraph 31(i)

A number of WTO Members, including several developing countries, have highlighted the need to define the MEAs that fall under the mandate in paragraph 31(i), whereas other countries argued that the definition of such MEAs was not required because the negotiating mandate was confined to relations among Parties to MEAs, thus making the MEA-non-MEA relationship irrelevant. In the light of the large number of regional environmental accords, however, it does not seem illogical to define the MEAs falling under the negotiating mandate. India, Malaysia, Indonesia and Pakistan, for instance, suggested that such MEAs should (i) be negotiated under UN auspices, and (ii) have near universal participation, reflecting the diversity of UN and WTO membership in terms of geographical spread and stages of economic and social development (see WTO document TN/TE/R/6).

3. Party — non-Party nexus

Although conceptually the Party–non-Party nexus between MEAs and the General Agreement on Tariffs and Trade (GATT)/WTO is still valid, from a practical point of view it seems to have lost much of its potential as a source of conflict in recent years in the light of the fact that membership of many MEAs has become nearly universal, often being equal to or even greater than the number of WTO member countries. There is,

however, the important issue of non-membership by the United States in a number of MEAs and the relatively large number of non-Parties in one or the other MEA.[26] Several countries have expressed concern that the proliferation of amendments, protocols or annexes to various MEAs, each being a self-contained legal instrument that requires ratification, not only keeps the Party – non-Party nexus alive, but also might make it more subtle and confusing.

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The Doha negotiating mandate in paragraph 31(i) is clearly confined to the applicability of existing WTO rules as among Parties to MEAs. Although in several MEAs, such as the MP, membership of amendments, protocols and annexes is fragmented, this might not pose any legal problem for post-Doha negotiations. In fact, some countries might not wish to become Parties to specific provisions of an MEA, either temporarily or permanently, if these run counter to their interests and/or are too costly to implement.

4. Preserving the balance of rights and obligations

With reference to paragraph 31(i), paragraph 32 of the DMD states that negotiations "shall not add to or diminish the rights and obligations of Members under existing WTO agreements, in particular the Sanitary and Phytosanitary (SPS) Agreement, nor alter the balance of these rights and obligations".

This phrase, introduced into the Doha Declaration mostly at the request of the United States, implies that a number of principles for the use of trade measures for environmental/health purposes, specifically under the SPS Agreement, remain unchanged, irrespective of the outcome of the negotiations on paragraph 31(i). This primarily concerns some criteria explicitly mentioned in Article 5 of the SPS Agreement. They include:

- The evaluation of risk based on risk assessment techniques developed by relevant international organizations;
- Assessment of risk should be based on scientific evidence;
- Risk assessment should take into account relevant economic factors to ensure cost-effectiveness;
- Measures should be not more trade-restrictive than required to achieve the appropriate level of environmental/health protection;
- Provisional adoption of a measure in cases where relevant scientific evidence is insufficient. This procedure is, however, subject to seeking additional information for more objective assessment of the risk and subsequent review of the measure within a reasonable period of time.

The importance of these issues for developing countries is further elaborated on in section VII. 2 below.

D. Results of the CTE discussion on the MEA–WTO relationship

1. Overview

Discussions in the CTE in recent years have clarified a number of points:

- The importance of increased transparency of trade measures applied pursuant to an MEA was highlighted.
- Governments confirmed their engagement stated in Principle 12 of the Rio Declaration that environmental measures addressing transboundary or global envi-

ronmental problems should, as far as possible, be based on an international consensus.

- It was recognized that trade measures based on provisions explicitly agreed to might be necessary in certain cases to achieve the environmental objectives of an MEA, more particularly when trade is directly linked to the source of the environmental problem.
- It was also noted that when a genuine consensus exists among Parties to an MEA to apply between themselves trade measures expressly prescribed, there should be no dispute among them regarding the use of those measures.

The CTE has also made some recommendations to avoid disputes:

- The coordination of policies between trade and environment officials at the national level should be encouraged;[27]
- Increased cooperation between the WTO and the appropriate bodies of MEAs was considered useful;
- Members of the WTO should attempt to resolve conflicts concerning the use of trade measures for environmental purposes through the dispute settlement mechanisms (DSMs) provided by the MEAs. The improvement of compliance and dispute settlement provisions in MEAs would encourage the settlement of these disputes in the context of the MEAs;
- With respect to the implementation of MEAs by developing countries, the role and importance of compliance assistance mechanisms (also known as facilitating, supportive or positive measures), in conformity with the principle of common but differentiated responsibility, were stressed.
- Non-compliance by a developing country Party with MEA obligations was rarely due to a deliberate policy of such Party, but rather the consequence of a lack of national administrative, economic and technical capacity. It was therefore appreciated that the recent evolution of MEAs had placed more emphasis on facilitating and compliance assistance measures, rather than on dispute settlement measures.[28]

From an economic perspective, multilateral measures within an MEA may reduce unnecessary economic and trade effects by harmonizing the basket of instruments, thus preventing a proliferation of different national rules.

UNEP and MEA secretariats, in turn, have emphasized that there is a need for cooperative thinking on the part of the various national-level agencies and departments, as a prerequisite for more coherent international policy-making. The UNEP and MEA secretariats have also identified the need to broaden the debate to explore the numerous available synergies, believing that a more practical approach focusing in greater detail on concrete examples is desirable. This broadening could provide the basis for a more positive and proactive engagement among the trade and environment communities, particularly in relation to the crafting and use of supportive measures such as technical assistance and capacity building.[29] UNEP therefore considers that the mandate in paragraph 31(ii) of the DMD fostering regular information exchange between the CTE and MEAs is very helpful in this regard.

2. Proposals made in the CTE on clarifying the relationship between trade measures in MEAs and WTO rules

a. Pre-Doha proposals

Since the creation of the CTE in 1995, WTO members have tabled a whole range of proposals on how to address the WTO/MEA relationship.[30] Some have argued that the problem was only theoretical, since no single dispute over trade measures in an MEA had actually come to the WTO for settlement and, therefore, there was no need, at that stage, to change WTO rules to accommodate MEAs. According to this position, the current rules already provided countries with sufficient scope to protect the environment. This was defined as the "status quo" approach and it appears that the vast majority of WTO Members, including many developing countries, favour this position.

Another group of countries supported what was called a "soft accommodation" approach aimed at increasing the compatibility of environmental agreements with WTO rules. According to this position, there is no need to amend WTO rules to take MEAs into account, but cases of conflict can be addressed by, for instance, waiving on a case-by-case basis WTO obligations in order to cover specific trade measures taken pursuant to an MEA, or by developing guidelines for WTO dispute settlement bodies or for MEA negotiators to assist them in the selection of WTO-consistent trade measures to be included in the agreement.

A small group of countries, namely the European Community and Switzerland, supported a "full-scale accommodation" approach, whereby WTO rules should be changed to explicitly allow for the use of trade measures by members pursuant to MEAs, so as to give environmental policy makers the certainty and predictability that their regimes would not be overturned in the WTO.

Finally, according to a fourth approach, the burden of accommodation should shift to the MEAs themselves. MEA provisions should be modified on the basis of certain criteria with a view to enhancing clarity and making sure that trade measures are not more trade-restrictive than required to achieve MEA objectives and thus be WTO-compatible. This position was advocated by Canada and New Zealand, and also enjoyed considerable support among developing countries.

b. Post-Doha proposals

A good number of proposals were submitted after the Doha Ministerial Conference, dealing with both substantive and procedural aspects of the negotiating mandate in paragraph 31(i).[31] A large number of proposals supported the idea of a "bottom-up" approach, proposed by Australia (TN/TE/W/7), that consisted of three phases: (i) identification of STOs and WTO rules that are relevant to these obligations; (ii) exchange of experience on these provisions, including information exchange with MEA secretariats (in this phase it will be important to identify any real issues/problems encountered in implementing STOs as opposed to discussing theoretical or hypothetical scenarios); and (iii) discussion of matters arising from the work undertaken in phases one and two, and focus on the outcome of the negotiations. On the basis of this approach, some Members proposed for 2003 that STOs in three MEAs[32] — CITES, the MP, and the BC — be reviewed at greater length.

A second group of proposals favoured a "top-down" approach, advocated by the European Union and Switzerland.[33] This would include discussions on (i) issues of scope

and definition of STOs, (ii) the development of certain principles to address the WTO-MEA relationship, (iii) dialogue with MEAs, and (iv) the development of options or solutions. Some delegations suggested that the two approaches were not mutually exclusive and could be pursued in parallel.

Judging by the results of CTE discussions in the pre-Cancún period, it seems that the proposed "bottom-up" approach has garnered more support than the "top-down" one. This support does, however, not rule out that some discussion on general principles on and conceptual/definitional approaches to the relationship between WTO rules and STOs of MEAs will take place in parallel or as a result of the "bottom-up" analysis. However, many countries seem to sympathize with the Indian position suggesting that the outcome of negotiations should be based on an exchange of concrete implementation experience.[34]

E. The most important sources of potential conflict

A number of specific causes of potential conflict can be identified. Some of them were highlighted in UNCTAD's analytical and capacity-building activities on assisting developing countries in meeting objectives of MEAs with trade measures, without jeopardizing developmental priorities.[35] Others were mentioned in OECD analysis of experience with the use of trade measures in three MEAs (CITES, the MP and the BC) during the period 1996–1999,[36] in which UNCTAD and UNEP actively participated.

First, some of the trade measures in MEAs seem to lack clarity and therefore may introduce ambiguity that could be interpreted as an unjustifiable situation under WTO rules. Clear definitions and technical benchmarks, based on appropriate scientific information are very important. This of course also raises the issue of the relationship between a precautionary approach and risk assessment and any reconciliation of these by other approaches than the one contained in Article 5 of the SPS Agreement as outlined above.

Second, in the light of the increasing differentiation among developing countries, "one-size-fits-all" trade measures in some MEAs are no longer up to date. Such weakness can either be addressed by reshaping the trade measure concerned or by introducing more flexibility when it is used in its current form.

Third, even if a specific trade measure were regarded by a developing country Party to an MEA as inappropriate, the effect of such a measure could be countered by sufficient supportive measures. However, as mentioned in section II.3 above, unlike trade measures, with very few exceptions, supportive measures are not mandatory in MEAs. Also, there is only limited reciprocity between the compliance of developing countries with MEA obligations and the compliance of developed countries with commitments on supportive measures. Furthermore, the volume and effectiveness of supportive measures in most MEAs are insufficient.

Fourth, in adopting specific trade measures, in particular of a drastic nature such as bans, insufficient attention has been paid to understanding the underlying economic and social implications. This lack of understanding is of particular importance in cases where MEAs touch upon economically important resources (such as the MP or BC) and are vital for agreements such as UNFCCC and the Kyoto Protocol, which are widely interpreted to be environmentally motivated economic accords. For instance, some measures might lead to pushing undesirable activities from the formal into the informal sector or

encourage illegal international trade. Although the environmental problem might therefore disappear in the official statistics, in reality it may become more severe.

Lastly, insufficient or poor national policy coordination between trade, industry and environment ministries has been advanced as one key cause of potential conflict between trade measures in MEAs and WTO rules.[37] In this regard, the question arises whether this is a procedural or substantive issue. The latter is basically reflective of the four issues mentioned above. In short, developing countries need to carefully analyse the environmental and developmental implications of proposed STOs in the light of their environmental absorptive capacities, developmental priorities and capacity-building needs. New obligations should be agreed to only if they are clear, have a beneficial effect on sustainable development, and do not siphon away resources from other, much-needed areas.

Some general conclusions from the WTO dispute settlement practice related to GATT Article XX [38]

Article XX contains limited exceptions to obligations under certain other provisions of the GATT 1994, not positive rules establishing obligations in themselves. Therefore, a Party invoking an exception under Article XX has to prove first that the inconsistent measure has a provisional justification under one of the explicit exceptions figuring in Article XX, and second that further appraisal of the same is required under the introductory clause of Article XX.

There has been some evolution in the interpretation of the necessity requirement of Article XX (b) – protection of human, animal or plant life or health – and (d) – securing compliance with laws or regulations that are not inconsistent with the provisions of the GATT 1994. The interpretation has evolved from a least-trade-restrictive approach to a less-trade-restrictive one, supplemented by a proportionality test (i.e. a process of weighing and balancing a series of factors).

The chapeau of Article XX contains three standards to be tested: (i) arbitrary discrimination, (ii) unjustifiable discrimination, and (iii) a disguised restriction on international trade. Several panels confirmed that it was the application of the measure and not the measure itself that needed to be examined.[1] In regard to the arbitrary and unjustifiable discrimination of a measure, panels have accorded special attention to flexibility in the application of the measure concerned. The more rigid and inflexible the application, the higher the likelihood that the measure is regarded as arbitrary and unjustifiable. Regarding a disguised restriction of a measure, three criteria have been progressively introduced by panels and the Appellate Body in order to determine whether a measure is a disguised restriction on trade: (i) the publicity test; (ii) the consideration of whether the application of a measure also amounts to arbitrary or unjustifiable discrimination, and (iii) the examination of the design and architecture of the measure at issue.

In summing up, one can probably establish the following general rule: the greater the flexibility of a currently used trade measure in an MEA and the more important the supportive measures made available, the less the likelihood of a developing country Party challenging such a measure. In other words, the effectiveness of trade measures and their efficiency in meeting the stated environmental objective of the MEA will significantly depend on (i) the flexibility mechanisms, both enshrined in the accord and further developed by the MEA Parties over the years, and (ii) the provision of effective

supportive measures for developing countries. Both clusters of mechanisms can ensure that divergent environmental, economic and social conditions and the resulting priorities and interests of Parties, notably developing countries, will be taken into account and that trade measures thus do not jeopardize developmental goals. A clear definition of trade measures, together with the use of objective, science-based criteria for their use, is also important for ensuring the effectiveness and efficiency of the trade measures in MEAs and avoiding the risk of such measures being regarded as arbitrary and/or unjustifiably discriminatory or a disguised form of protectionism.

The effectiveness of trade measures and their efficiency in meeting the stated environmental objective of the MEA will significantly depend on the flexibility mechanisms and the provision of effective supportive measures for developing countries.

F. A brief analysis of specific trade obligations, flexibility mechanisms and supportive measures in three MEAs (CITES, the Montreal Protocol and the Basel Convention).

This part mainly focuses on the STOs, flexibility mechanisms and supportive measures of the BC. To evaluate the results of the analysis, however, it was considered more helpful to put them into context and compare the results for the BC with the picture one can observe in CITES and the MP.[39]

1. CITES

The key objective of the Convention is to ensure that no species of wild fauna or flora becomes or remains subject to unsustainable exploitation because of international trade. CITES is not designed to deal with other pressures on endangered species such as (i) loss of natural habitats (e.g. from land conversion); (ii) introduction of new species; (iii) over-exploitation of species caused by domestic commercial and subsistence use; and (iv) pollution and global environmental change.

A significant problem for CITES is that generally the direct role of international trade in species extinction is less pronounced than the other factors, particularly habitat loss and domestic commercial as well as subsistence use. Therefore, it is often difficult to establish a direct causal link between species extinction and international trade. This results in real or potential conflicts between the pro- and anti-trade communities within CITES in deciding on the inclusion, transfer or deletion of species in the Appendices to the Convention.

CITES has a number of trade measures that could qualify as STOs:

- Article II (4) prohibits trade in specimens of species listed in Appendices I, II, and III, [40] except in accordance with the Convention.[41]
- Article III regulates all trade in specimens of species listed in Appendix I.
- Article IV (1) – (6) regulates all trade in specimens of species listed in Appendix II
- Article V regulates all trade in specimens of species listed in Appendix III.
- Article VI (1) – (6) governs permits and certificates related to trade.
- Article VIII (1) (a and b) and (6) require Parties to maintain records of trade and to take appropriate measures to enforce the Convention to prohibit trade in violation thereof.[42]

In addition, as already mentioned above, Article XIV (1) of the Convention stipulates that it "shall in no way affect the right of Parties to adopt (a) stricter domestic measures regarding the conditions for trade, taking, possession or transport of specimens of species included in Appendices I, II and III, or the complete prohibition thereof, or (b) domestic measures restricting or prohibiting trade, taking, possession or transport of

species not included in Appendix I, II or III". This provision leaves considerable discretion to Parties to go beyond the trade provisions of the Convention.

CITES has a number of flexibility elements that can be applied to enhance the effectiveness and efficiency of trade measures:

- The transferring of species from Appendix I to Appendix II is based on consensus or a two-thirds-majority vote.
- (Not in the Convention, but recently developed) national export quotas agreed by the COP for a limited amount of trade of Appendix I-listed species (this allows a distinction between national populations that are more sustainably managed than others).
- Limited flexibility for international trade in Appendix I species through an exception, called ranching – CITES-registered farms receive treatment of Appendix II-listed species for international trade (ranching has also led to some general down-listing of species).
- The possibility for a Party to make a reservation to a decision on listing of a particular species. This Party will then be considered as non-Party for this species and can trade with a Party in accordance with Article X of the Convention or with another non-Party.
- Trade with non-Parties is possible if non-Parties (i) have a similar administrative infrastructure, and (ii) issue CITES-comparable permits and certificates.
- The option under Article XIV of CITES to allow importing or exporting Parties to take stricter domestic measures on any species.
- The option of a "zero export quota" adopted by the COP and included in annotations to the Appendices.

Conversely, CITES has limited human and financial resources for providing direct or long-term support to developing countries. Technical assistance and capacity-building efforts are structured to support and enhance ongoing national efforts to implement the Convention. In recent years, about US$ 2 to 3 million has been made available for training and technical assistance annually. This amount has been supplemented by bilateral technical assistance.

With few exceptions, it has been difficult to attribute conservation success to trade measures.

With few exceptions, it has been difficult to attribute conservation success to trade measures. Many examples show that it is not just the banning or restriction of international trade per se that generates the conservation effects (CITES listing draws attention to problems, raising public awareness and generating broader public and NGO responses), but the total response these actions generate.

Unlike in the case of the BC, some Parties have resisted attempts to list commercially important fish and timber species in Appendix II, because of uncertainty over whether such listing would hamper international trade and lead to trade prohibitions.[43] Recently, many Parties have emphasized that CITES should find solutions to individual problems in specific countries, rather than promote blanket global prohibitions.

A potential area of tension with WTO rules is the practice of using trade measures to ensure compliance with the Convention, for instance, by temporarily suspending commercial trade in CITES-listed species with specific Parties that fail to demonstrate within a certain time period that they have adopted adequate legislation for implementation of the Convention. Although there is no specific article in the Convention on 'compliance' or 'non-compliance,'[44] Article XIII on International Measures expressly provides for cooperative procedures and institutional mechanisms for dealing with possible non-compliance. Additional CITES measures to ensure compliance derive from a set of procedures and mechanisms approved by the Parties over a number of years.[45] Decision 11.15

of COP XI in April 2000, for instance, stated that the secretariat brought to the attention of the Parties the fact that four countries (Fiji, Turkey, Viet Nam and Yemen) had high volumes of international trade in CITES-listed species and that their national legislation was believed not to meet the implementation requirements of CITES. It was proposed that these countries should be given till 31 October 2001 to (i) adopt adequate legislation, or (ii) request technical assistance from the secretariat to prepare such legislation, and (iii) should report on related progress to the secretariat no later than 30 April 2001. Decision 11.16 of COP XI asked all Parties to suspend trade in all CITES-listed species with the four countries in question as from 31 October 2001, if, in spite of assistance, these countries would not adopt the required legislation.[46] A number of countries have been identified for attention by the Standing Committee for their failure to enact adequate legislation, to ensure that species are not affected adversely by international trade or to effectively implement the Convention. More than 20 countries have faced general CITES or species-specific recommendations to suspend international trade.[47]

Some argue that there is no credible alternative to such use of compliance measures and that the mere threat of a multilaterally agreed recommendation to suspend trade, coupled with domestic pressure from the trade community impacted by the suspension, often raises the level of political attention and results in a quick governmental response to control trade.[48] Conversely, one can argue that the developing countries concerned hardly ever fail to comply with the Convention because of unwillingness. Rather, a lack of capacity and resources is often the pivotal cause. Therefore, supportive rather than suppressive compliance measures would be more adequate. However, the "armoury" of CITES supportive measures is small, which makes it difficult to achieve a balance of 'carrots' and 'sticks' in an effective compliance scheme. Moreover, the threat or the use of trade measures against non-complying (developing country) Parties may cause significant direct and indirect adjustment costs that could lead to a crowding out of much-needed resources for social and other purposes of higher developmental priority.

2. The Montreal Protocol

The MP is an international legal instrument of the Vienna Convention for the Protection of the Ozone Layer of 1985. It consists of five separate treaties (the MP, which entered into force in 1989, the London Amendment of 1990, the Copenhagen Amendment of 1992, the Montreal Amendment of 1997 and the Beijing Amendment of 1999). In the MP, trade measures are supplementary to the phasing-out schedules of ozone-depleting substances (ODS). The MP only requires a ban on trade of ODS and ODS-containing products between Parties and non-Parties to the treaty. Although this trade measure is minor compared with measures in other MEAs, it is of major importance for the Protocol and the international ozone regime. There are, however, some other measures that also concern trade among Parties:[49]

- Implicit control of trade between Parties through the formula for calculating ODS consumption: production + import - export (export and import of used/recycled ODS are not included in consumption as recovery obviates the need for new ODS).
- A licensing system for ODS trade among Parties to combat illegal ODS shipments that was agreed upon in 1997.
- A recently adopted export ban on used and recycled ODS for Parties in non-compliance.
- Voluntary notification by a Party of ODS-containing products it does not want to import.
- Decision XIV/7 of the Meeting of the Parties (MoP) 2002 introduced a reporting provision for proven cases of illegal trade.[50]

Like CITES, the MP is equipped with an enforcement mechanism that provides an institutional and legal basis for ordering trade sanctions against violators. For instance, in Annex IV[51] of the MP, entitled "Non-compliance Procedure", an Implementation Committee was established in order to supervise the national implementation of the Protocol. Paragraph 9 of the Annex provides that the Committee shall report to the MoP of the Protocol, including any recommendations it considers appropriate. Then, on the basis of the report, the Parties may decide upon and call for necessary measures to enforce full compliance with the Protocol. To avoid controversy and restrict the extent and content of the measures the Parties may take, Annex V of the Protocol sets out a list of measures in a straightforward manner. In addition to non-coercive and incentive means, suspension of trade is clearly specified in paragraph C of the Annex. This provision has however not yet been invoked.

The MP has the following flexibility mechanisms:

- A grace period of ten years (or more in some cases) for developing country Parties.
- A reciprocity provision in the core Convention that relates developing countries' capacity for fulfilling obligations to the effective implementation of the provisions on financial cooperation and transfer of technology by developed country Parties (Article 5.5).
- Developed countries can exceed their ODS production limit by 10-15 per cent to meet the basic domestic needs of developing countries during their phase-out period.
- ODS production can be permitted for other "essential or critical uses" (for instance, methyl bromide for pest and disease control and its related use for quarantine and pre-shipment purposes is currently exempted from controls;[52] also, the use of CFCs for propellants for metered-dose inhalers falls under the essential use exemption).
- Trade restrictions do not apply to a non-Party if the MoP determines that the non-Party is in full compliance with the control measures and has provided data to this effect (this is very important for the Protocol in the light of the number of separate agreements it covers and their separate ratification requirements).
- Until the first control measures took effect,[53] ODS-producing developing countries were exempted from any export restraints in order to ensure adequate and quality supplies of ODS for other developing countries at fair prices, thus avoiding monopolistic market structures.

Regarding supportive measures, a Multilateral Fund was created to meet the "agreed incremental costs" of ODS phase-out in developing countries on the basis of a specific list of categories of incremental costs. The Multilateral Fund covers costs for technology transfer or domestic development of ODS substitutes, equipment needed and its installation costs, and training. It also covers support for institutional strengthening of projects, which has been very important in practice.

The Multilateral Fund has disbursed almost US$ 1 million per country per annum.

The Fund has so far disbursed more than US$ 1 billion to almost 120 developing countries. This investment has supported about 2000 projects to phase out some 60 per cent of ODS consumption in developing countries. The Multilateral Fund therefore disbursed roughly US$ 9 million per developing country in the 1990s or almost US$ 1 million per country per annum. By way of comparison, the latter figure is almost equivalent to the total annual technical assistance provided by CITES or the BC to all developing countries.

3. The Basel Convention

The BC regulates international trade in hazardous waste. It aims at (i) reducing the generation and transboundary movement of hazardous wastes in terms of their volume and hazardousness, (ii) disposing hazardous wastes as close as possible to their source of generation, (iii) preventing illegal traffic, and (iv) prohibiting shipments of hazardous wastes to countries that lack the legal, administrative and technical capacity to manage them in an environmentally sound manner.

One of the key challenges for the Convention is the fact that while many hazardous wastes represent an undesirable consequence of industrial production and other human activity that needs to be safely disposed of, there are also some wastes that are or can become valuable secondary material through recovery operations and are thus in demand as commodities. For reasons of energy, resource or process efficiency, the use of such secondary material (lead scrap being a prominent example) is generally more cost-efficient than the use of primary material and thus in great demand, including from developing countries.

The Convention initially confined the regulations of international trade in hazardous waste to a "prior Informed Consent" (PIC) approach. Subsequently, the second and third COPs adopted the so-called Basel Ban Amendment that supplements, on the one hand, and significantly revises, on the other hand, the original PIC approach. According to the Ban Amendment (also known as COP decision III/1), all international shipments of hazardous waste for final disposal and reuse, material recovery or recycling are banned from Annex VII countries (i.e. members of the OECD and EC, and Liechtenstein) to all other countries.

The original Convention contains the following trade measures that might eventually be considered STOs:

- Articles. 3(1) and 3(2) require reporting on national definitions of hazardous wastes and requirements concerning transboundary movements;
- Articles 4(1), 4(2)(e), 4(2)(f), 4(2)(g), 4(6), 4(7), 4(8), 4(9) and 4(10) set out specific obligations regarding the transboundary movement of hazardous waste;
- Articles 6(1), 6(2), 6(3), 6(4), 6(5), 6(9) and 6(10) outline the modalities for transboundary movement of hazardous wastes (some of these modalities may not qualify as STO);
- Article 8 governs the duty to reimport;
- Article 9(2) sets out obligations for the repatriation of illegal waste;
- Articles 13(2), 13(3)(a) and 13(4) elaborate on procedures for the transmission of information.[54]

The BC has succeeded in significantly reducing waste trafficking from developed countries notably to the less and least developed countries.

It is important to note that the BC has succeeded in significantly reducing waste trafficking from developed countries notably to the less and least developed countries. Although precise data in this respect are scarce, reported cases of waste trafficking have recently become very rare. Also, the Convention has pioneered a Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal.[55]

The Convention, however, has also a number of conceptual and definitional deficiencies:

- The key underpinning of the Convention and the Ban Amendment is the concept of environmentally sound management of hazardous waste (ESM). Existence or lack of ESM in a target country is the lynchpin for allowing or preventing haz-

ardous waste exports to that country. However, the Convention has not yet developed any practical mechanism for implementing ESM, based on clear, science-based criteria.[56] Because the concept of and requirements for ESM are so pervasive in the Convention, it is likely that shipments of Basel wastes to facilities without ESM are a priori illegal. However, the Convention does not specify the manner or the extent to which the State of export must verify ESM. Furthermore, the Convention takes for granted that "all" developing countries will never achieve ESM, although some have already done so.[57]

- The term "hazardous waste" is not clearly defined in the Convention. It concerns categories of waste in Annex I that need to exhibit one of 13 hazardous characteristics in Annex III, without exceeding any threshold or requiring a risk assessment. This shortcoming has partly been overcome by creating Annex VIII, which contains a list of specific wastes that, from a multilateral point of view, are considered hazardous under the Convention. Some ambiguity remains, however. On the one hand, the list in Annex VIII contains a good number of "mirror items" — wastes that are listed in Annex VIII and Annex IX (the latter comprising wastes that are not characterized as hazardous under the Convention), such as electrical and electronic scrap. This inclusion has already led to some ambiguity and disputes. On the other hand, while Annex IX is supposed to list wastes that are considered non-hazardous at multilateral level (i.e. based on Article 1.1(a) of the Convention), Article 1.1(b) gives the discretion to individual Parties to nationally add items to the ones in Annex VIII or redefine items as hazardous or subject to specific treatment in Annex IX. This discretion not only leads to considerable discrepancies between existing lists, but also creates uncertainty for trade flows.
- The BC defines disposal of hazardous waste as including both "final disposal" and "reuse, recovery and recycling" of material contained in the waste. Unlike in the case of CITES, this definition affects a number of commercially important secondary materials in international trade such as lead and zinc scrap as well as precious and non-ferrous metals contained in waste electrical and electronic assemblies.
- The BC implicitly assumes that there is a propensity for developed countries to dump hazardous waste in developing countries (i.e. that transboundary movements would only be supply-induced). The actual demand of developing countries, in particular in rapidly industrializing countries with high material intensity of economic growth, for recoverable material is insufficiently recognized. Article 4.9 (b) of the original Convention allows movements of hazardous waste if required as commodity input. The Ban Amendment, however, overruled this provision. Most of the hazardous waste trade between developed and developing countries as well as among developing countries is destined for material recovery/recycling and is overwhelmingly demand-induced, rather than supply-induced.[58]
- Although the main thrust of the Convention is the minimization of transboundary movements of hazardous waste, over time several stakeholders, in particular some NGOs, have increasingly emphasized waste avoidance and miminization as a prime objective. Although trade restrictions might lead to some internalization of environmental costs and thus encourage waste minimization and avoidance, they are not the most effective and efficient policy instrument, and can only play a supplementary role to in relation to other economic instruments that directly influence efficient use of material/resources.

In addition to shortcomings in the core Convention, the Ban Amendment has added a number of other provisions that lack clarity:

- The Ban Amendment provides for a multilateral ban on the export of hazardous waste from Annex VII to non-Annex VII countries. However, there is an arbi-

trary definition of Annex VII countries, which include members of the OECD and the European Community, and Liechtenstein, and a noticeable absence of any objective criteria (other than becoming a member of the OECD or the European Community[59]) for joining the Annex.

- The status of Article 11 agreements with non-Parties that meet Convention-comparable criteria is unclear under the Ban Amendment.

Although the Ban Amendment is not yet in force,[60] shortly after its adoption the European Community revised its regulation on exports and imports of hazardous waste with a view to implementing the Ban Amendment.[61] Therefore, interested developing countries, such as India, Malaysia, the Philippines or Thailand, have been unable to import hazardous waste destined for recovery operations in accordance with Article 4.9(b) of the Convention.

Supportive measures in the Convention are largely insufficient. The BC does not have a proper financial mechanism or access to the Global Environment Facility (GEF). Technical assistance funds total only about US$ 1.5 million per annum for all developing countries. The regional and subregional centres for training and technology transfer - created in 13 developing countries - are an interesting concept;[62] the centres are, however, financially weak and mostly focus on training on the rules and regulations of the Convention, rather than on building technical and managerial capacity in ESM.[63] Furthermore, the Ministerial Declaration of COP V in 1999, which was supposed to move the pendulum of the Convention from "regulatory mechanisms" to "capacity building", has so far had only limited effect.

4. Some general conclusions of the review of the three MEAs

CITES and the MP have a much higher number and level of sophistication of flexibility elements than the BC.

With the exception of the use of trade measures against non-complying Parties as enforcement instruments, the trade measures in CITES and the MP are clear and their adoption and modification are subject to unambiguous rules. Conversely, some of the key trade measures in the BC lack clarity.

With the Multilateral Fund, the MP has not only its own, but also a very large and effective financial mechanism, which not only covers many incremental costs of switching to technologies that out phase production and consumption of ozone-depleting substances, but also funds policy-coordinating "ozone offices" in developing countries. Conversely, CITES and the BC have no financial mechanisms of their own and also do not have access to GEF funding. Consequently, funds for technical assistance and capacity building are largely insufficient. Although the regional and subregional centres of the BC are a promising approach, their financial base remains very weak.

There is a divergent level of clarity and flexibility in the STOs used in the Basel Convention, CITES, and the Montreal Protocal; the same seems to be true for the supportive measures that exist and are effectively implemented.

The MP and CITES[64] had consultations with the GATT secretariat on the compatibility of trade measures with the rules of the multilateral trading system. The MP even had a sub-group of legal, technical and trade experts that examined some proposed trade measures in the light of GATT Article XX.[65] Conversely, the BC has never made comparable efforts.

In conclusion, the survey above shows that there is a divergent level of clarity and flexibility in the STOs used in the three MEAs; the same seems to be true for the sup-

portive measures that exist and are effectively implemented. As outlined in the box on dispute settlement practice related to Article XX of GATT above, the more rigid and inflexible the application of a trade measure, the greater the likelihood that the measure is regarded arbitrary and unjustifiable under WTO rules.

G. Results of previous discussions on enhancing clarity of trade measures and their compatibility with WTO rules

1. Results of previous intergovernmental discussions outside the WTO

a. Discussions at OECD

Before exploring the options for a way forward for approaching the mandate in paragraph 31(i) from a developing country point of view, it is worth recalling the results of some previous intergovernmental discussions outside the WTO on enhancing clarity and effectiveness of trade measures in MEAs and ensuring their compatibility with WTO rules. The most thorough discussion took place in the OECD Joint Working Party on Trade and Environment, on the basis of on an in-depth analysis of the effectiveness and efficiency of trade measures in CITES, the MP and the BC in the period 1997-1999. The main findings of the three case studies[66] were summarized in a synthesis report (OECD document COM/ENV/ TD(98)127/FINAL of 15 February 1999) that contains a number of criteria recommended for enhancing the clarity and effectiveness of trade measures and their compatibility with WTO rules.

The MEA secretariats concerned — UNEP and UNCTAD — actively participated in both the preparation of the OECD cases studies and the discussion of the synthesis paper. Outreach forums for NGOs were held to seek their feedback on the discussions in the Joint Working Party. This meant that all key advocates of the negotiating mandate of paragraph 31(i) actively participated in the OECD discussions.

Although they were intended merely as an analytical exercise, it soon surfaced that both the case studies and the synthesis report became politicized issues. In particular the case studies on CITES and the BC had to be significantly revised on various occasions in the light of the factual and political comments made by the MEA secretariats concerned and various OECD delegations, most prominently from Nordic countries in the European Union. The synthesis paper, and in particular its summary, turned out to be a "de facto" negotiated document. Despite being watered down here and there, the evaluation criteria are sufficiently clear and — politically very important — have the seal of approval of the EU countries. In further WTO negotiations on the subject, it might be important to revisit some of the conclusions drawn by the OECD Joint Working Party.

According to the latter, the use of trade measures should be carefully designed and targeted to the environmental objective. This has the following implications:

- As with all policy development, prior assessments should be made of the potential environmental and economic ramifications of trade measures, particularly those that are highly restrictive, such as bans.
- Potential difficulties such as illegal trade and inadequate technical and institutional capacity in some countries, in particular developing countries, should be taken into account from the beginning.
- The current dynamics and continuous improvement of MEAs should continue, with policy instruments, including trade measures, being adjusted and made more flexible as appropriate.

The use of trade measures should be carefully designed and targeted to the environmental objective.

- Trade measures, which treat classes of countries in different ways, should be based on clear and scientific environment-related criteria.
- Trade and environment policy officials should work in close coordination in national capitals, and the WTO, UNEP and MEA secretariats should continue to develop their dialogue on these issues.

In the light of the above, the OECD Working Party identified a number of specific criteria, which may contribute to, or limit the success of, trade measures in MEAs:

Factors contributing to success

- Genuine multilateral consensus on shared environmental problems paves the way for effective agreements to address them.
- Comprehensive and balanced packages of policy instruments have more chance of addressing all aspects of an environmental problem than reliance on one form of policy instrument.
- A strong scientific basis for policy action increases credibility and acceptance; at the same time, the absence of full scientific certainty should not prevent action in cases of threats of serious or irreversible damage.
- Policy based on an understanding of the underlying economics will be more effective than attempting to cut across economic factors.
- Funding, technical cooperation and information exchange to establish the technical and administrative capacity to implement treaty obligations may be essential, particularly for developing countries.
- Strong market signals about an end-point, combined with realistic transition periods, will provide a commercial context conducive to innovation and allow cost-effective ways of meeting targets.
- Additional or extended transition periods for developing countries can help lower adjustment costs.
- Flexibility in trade controls can maximize the environmental and economic benefits, for example ranching and national export quotas in CITES.
- Treatment of a non-Party to an MEA like a Party, if such country is in compliance with the provisions of the MEA.

Factors limiting success

- Lack of funds for implementation and enforcement capacity, both multilaterally and nationally.
- Illegal trade (whose causes and driving forces need to be carefully understood).
- Over-reliance on one type of control, such as a trade ban, in cases where the underlying environmental, economic and social context is very complex.
- Inadequate recognition of the underlying economic context and driving forces.
- Ambiguity and complexity in definition and implementation of MEA trade measures, for example difficulties in determining whether particular shipments are covered by the relevant Agreement.
- Inadequate reporting of information by Parties.
- Insufficient incentives for participation and compliance.

b. Discussions in UNCTAD

To recall but a few highlights, in 1997, UNCTAD organized an Expert Meeting on the Role of Positive Measures in Promoting Sustainable Development, in Particular in Meeting the Objectives of Multilateral Environmental Agreements.[67] In 2001, it published a monograph containing various country case studies on the effectiveness and efficiency of trade measures and their developmental effects in CITES, the MP and the BC.[68] Furthermore, UNCTAD conducted capacity-building activities in various countries for implementing the CBD, UNFCCC and the BC. For the latter, UNCTAD explic-

itly analysed the effectiveness and efficiency of trade measures at macro- and micro-economic levels. [69]

Without pre-empting the outcome of the discussions and negotiations on the mandate in paragraph 31(i) of the DMD, UNCTAD would be ready to assist developing countries and the CTE in further "bottom-up" analysis of STOs as outlined later in the paper, drawing on the expertise gathered on the subject in recent years. UNCTAD would also be prepared to organize special briefings for interested developing country negotiators to analyse and clarify the approach outlined below, including briefings on STOs in particular MEAs. Some of these briefings could be held as an activity of the UNEP-UNCTAD Capacity-building Task Force on Trade, Environment and Development (CBTF), which would allow an in-depth dialogue with concerned UNEP and MEA secretariat staff.

2. Previous discussions on the negotiating objectives within the environmental community

To develop an appropriate response from a developing country perspective to the negotiating mandate in paragraph 31(i), it is also important to appreciate the goals for the negotiations, as identified by the environmental community. Although being the primary proponent of the mandate, it is intriguing that many environmental NGOs find it very difficult to clearly define the objectives of the negotiating mandate. This said, their negotiating objectives could probably be summarized as follows:[70]

- Confirming the mutual supportiveness of the MEA and WTO regimes;
- Clarifying the relationship between TRIPS and CBD;
- Clarifying the status of the dispute settlement mechanisms of MEAs and the WTO;
- Introducing safeguards against the use of litigation mechanisms in bilateral or plurilateral investment agreements to undermine STOs in MEAs; and
- Clarifying the use of the precautionary principle.

Although being the primary proponent of the mandate, it is intriguing that many environmental NGOs find it very difficult to clearly define the objectives of the negotiating mandate.

From a developing country perspective, all but two of the above-mentioned objectives of the negotiations pose little problem; in fact, they are identical with developing countries' interests, as reflected in the DMD itself and in paragraph 98 of the Report of the World Summit on Sustainable Development.[71]

The first exception concerns the clarification of the status of the DSM of MEAs and the WTO. In principle, there is nothing wrong with suggestions by the environmental community that the equal status of both DSMs is specifically clarified from a legal point of view, and a sequencing of litigation be optionally outlined[72], as long as this does not exclude recourse to the WTO DSM by interested developing countries.

The second exception concerns the most appropriate form of the implementation of the precautionary approach. The widely cited Principle 15 of the Rio Declaration stipulates that "the precautionary approach shall be widely applied". However, it also states that this should be done "according to [States'] capabilities". In other words, Rio Principle 15 leaves untouched the specific form of implementation of the precautionary approach. This situation may be conditional, as under Article 5 of the SPS Agreement, or unconditional, as under Article 10.6 of the Biosafety Protocol.[73] Weighing up the pros and cons of the conditional versus the unconditional form of implementation and bearing in mind that the implementation of the precautionary approach has systemic implications beyond the realm of MEAs, including its possible effects on exports of developing countries, the conditional implementation seems to be the more appropriate form for

developing countries. "Conditional" would imply that precautionary measures are taken on the basis of available scientific information (generally accepted scientific criteria adopted by the COP in the case of MEAs), temporarily applied subject to a risk assessment according to defined criteria, and reconsidered as new scientific evidence becomes available. With regard to risk assessment, it is important that developing countries insist that, in the context of MEAs, the costs of the assessment should be borne by the exporters of "environmentally sensitive items" or by a multilateral mechanism.[74]

To complete the picture, some environmental NGO critical views on the MEA-WTO debate should not remain unmentioned. These critics interpret the environmental community's desire for formal clarification of the relationship between STOs in MEAs and WTO rules as part of a "Safe Trade Strategy". Such a strategy aims at (i) elaborating MEAs and extending the number of issues covered by them; (ii) developing WTO jurisprudence that will allow the use of trade measures in MEAs (e.g. as in the shrimp-turtle case); (iii) inclusion of the precautionary principle in MEAs, in particular in its unconditional form of application; and (iv) reflecting the use of the precautionary principle in WTO jurisprudence. It is argued that the "Safe Trade Strategy" is advocated by an alliance consisting of some environmental and consumer groups, supplemented by some protectionist industries.[75]

H. The way forward – Approaching the negotiating mandate of paragraph 31(i) from a developing countries' perspective

Given the very heterogeneous nature of developing countries, the following general recommendations and conclusions have their natural limitations. Even so, the recommendations attempt to reflect the different interests where they matter most.

First, from a developing countries' perspective, it is advisable that discussions and negotiations on trade measures remain focused on STOs. However, developing countries need to stress that trade measures are generally an integral part of a package of measures and that negotiations and discussions on STOs need to pay full attention to positive/supportive measures. Moreover, there is a certain balance and interplay between the measures of the package. Restrictive trade measures can be accompanied by supportive measures or enhanced flexibility elements that make the whole package acceptable to a developing country Party. If properly used, the balance and interplay between the various measures can also help address the enhanced differentiation among developing country Parties. In short, developing countries should advocate a practical way forward that pays due attention to the development dimension of the package of measures taken by relevant MEAs.[76]

Second, the heterogeneous character and objectives of developing countries are best taken into account by a "bottom-up" analysis of practical experience with STOs in concerned MEAs. This approach will allow the identification of real areas of conflict between both systems, rather than discussing theoretical or hypothetical areas of tension. The "bottom-up" approach will not exclude the possibility of certain systemic issues arising from the analysis, as advocated by the European Union and Switzerland, for instance.

Third, although it is important to clearly define the term "specific trade obligations", developing countries should avoid the pitfall of a too legalistic debate. It is in the interest of developing countries that STOs in MEAs leave little discretion to Parties for unilateral measures that are taken "pursuant to MEAs". This would suggest that STOs should

not include those that are discretionary. On the other hand, the UNFCCC and its Kyoto Protocol, which do not provide for STOs, but use trade measures as "obligation de résultat", would therefore fall outside the mandate of paragraph 31(i), although these accords might have the most important trade implications of all MEAs (e.g. through energy performance criteria/requirements, energy taxes etc.).[77] It is therefore advisable that developing countries advocate the introduction of some discipline for discretionary trade measures taken pursuant to MEAs. This could be achieved by introducing text in the negotiated outcome which would emphasize that "WTO advocates the scope for countries to implement sound environmental measures that are consistent with the objectives of MEAs while adhering to established WTO rules and obligations". It is likely that such language would ultimately find its way into the appropriate environmental accords.

Fourth, in MEAs, developing countries should insist on clear definitions of STOs alongside the use of objective, science-based criteria for their use. This will be important for ensuring the effectiveness and efficiency of the STOs in MEAs and for avoiding the risk of such measures being regarded as an arbitrary and/or unjustifiably discriminatory measure or as a disguised form of protectionism.

Fifth, it seems logical to focus the next phase of the analysis in the CTE on an in-depth review of the clarity, effectiveness, efficiency and flexibility of the STOs in a small number of concerned MEAs.[78] Such a review could be based on a number of specific criteria, as used by similar previous exercises outlined in section G.1.a.

It seems logical to focus the next phase of the analysis in the CTE on an in-depth review of the clarity, effectiveness, efficiency and flexibility of the STOs in a small number of concerned MEAs.

The analysis should aim at identifying those STOs in MEAs that lack clarity, are inflexible, ineffective and/or highly inefficient and thus might not be compatible with WTO rules. Once such a list was established by the CTE, it could be brought to the attention of MEA Parties. These Parties should be encouraged to form a working group of environment and trade experts under the aegis of the respective MEAs, which would study the list of STOs that might give rise to tension and makes recommendations on their improvement and/or the introduction of supportive measures or flexibility elements.

The list of such STOs is likely to be small. On the basis of the above analysis, only the BC has a number of STOs that might be in conflict with WTO rules. Under CITES, only the use of STOs as enforcement mechanisms seems to be an area of tension.

Such an approach is unlikely to be objected to by MEAs because its decisive discussion would remain under the control of MEA constituencies. It can also ensure that the delicate balance between rights and obligations contained in MEAs is maintained.[79] It will require, however, a sincere and open attitude to objectively reviewing the clarity, effectiveness and efficiency as well as the flexibility of the trade measures concerned and to considering WTO principles such as least trade restrictive practices. It is important in this regard that individual MEAs can demonstrate that (i) they are effectively dealing with the relevant environmental threat, using trade measures that are the least restrictive to achieve the policy objective;[80] (ii) they are a genuine platform for consensus; and (iii) that they have an effective DSM.

The suggested approach has a considerable affinity with the pre-Doha proposal by New Zealand to the CTE on an informal consultative mechanism that enjoyed broad support. The proposal by New Zealand emphasizes that when Parties to an MEA have committed themselves to the MEA, there should be no reason on the grounds of international law why those countries would object to trade measures pursuant to the MEA. In New Zealand's view, potential conflicts between WTO provisions and MEAs are lim-

ited; they are likely to arise only where the provisions of an MEA are *unclear* as to the action they mandate, even among Parties to it, or in situations where the Parties to an MEA are applying trade measures against a non-Party (see WTO documents WT/CTE/W/162 and WT/CTE/W/180).[81] According to New Zealand, the likelihood of difficulties between the WTO Agreements and MEAs is not to be exaggerated. If difficulties arise, however, New Zealand proposes the use of a "voluntary consultative mechanism" that could be deployed on an ad hoc basis to assess whether the relevant trade measure is the most effective instrument available for addressing the environmental problem at issue. Such voluntary consultative mechanisms may facilitate an improved understanding of different points of view; allow for the identification of a range of different policy options; maximize the potential for an agreed solution; minimize conflicts between Parties on trade and environment related policies, while avoiding inefficient environmental and economic outcomes at the same time (see WTO document WT/CTE/W/180).

While the proposal by New Zealand is still not fully elaborated, before the Doha Ministerial Meeting it had quickly gained ground in the CTE because of its simplicity and the fact that it does not involve a change to WTO rules.[82] The main elements of the proposal can be summarized as follows:

- Ensuring consultation between countries prior to the imposition of a trade measure to achieve the objective of an MEA. The first-best policy options should be pursued, these will always be the least trade-distortive options that deal with the source of the problem.
- Creating an informal voluntary consultative mechanism that Parties to MEAs enter into. MEA negotiators may consider building such mechanisms into new MEAs.
- Eventually involving "significant non-Parties" in these consultations.

From a procedural point of view, the approach proposed in this paper does not aim at another comprehensive analytical exercise; rather, the CTE could commission short papers on the BC, CITES and the MP, and if judged opportune, also on the Biosafety Protocol, the PIC and POPs Conventions. These three or six short reports would then form the basis for a debate in the CTE that identifies those STOs that may become or already are a source of tension with WTO rules. Identifying these STOs will allow a very pointed discussion in the CTE, probably leading to two options:

- Whether WTO Members want to bring to the attention of the concerned MEAs the fact that a specific trade measure might generate trade tensions and that the proper MEA bodies may wish to hold consultations, including key stakeholders and trade experts, on the trade measures concerned and discuss ways of enhancing their flexibility, including through the use of supportive measures; or
- Whether there is indeed (the not very likely situation of) a larger number of STOs with potential tensions in the studied MEAs that cannot be individually addressed by MEAs and for which a generic solution within the WTO context would have to be found.

Developing country WTO Members could go along with the development of guidelines that draw the lessons from the above-outlined exercise and, in addition, provide guidance on the application of discretionary trade measures taken by Parties pursuant to MEAs.

One has to admit, however, that the above-outlined approach is an *ex-post* attempt at overcoming potential tensions between STOs in existing MEAs and WTO rules. Those demanding the negotiating mandate have stressed that they wish to clarify the relationship in an *ex-ante* way to avoid the "chill factor" resulting from WTO rules. Therefore, if there was sufficient general support, developing country WTO Members could go along with the development of guidelines that draw the lessons from the above-outlined exercise and, in addition, provide guidance on the application of discretionary trade measures taken by Parties pursuant to MEAs.

Such guidelines should emphasize that STOs in MEAs should be clear, based on scientific environment-related criteria, sufficiently flexible, directly linked to the cause of the environmental problem and accompanied by adequate and effective supportive measures for developing country Parties.[83] In addition, developing countries may wish to advocate the introduction of some discipline for discretionary trade measures taken pursuant to MEAs. This could be achieved by introducing text in the negotiated outcome that would emphasize that "the WTO advocates the scope for countries to implement sound environmental measures, including trade measures taken pursuant to MEAs, which are consistent with the objectives of MEAs while adhering to established WTO rules and obligations".

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Notes

1 For instance, Abdel Motaal, D., Multilateral Environmental Agreements (MEAs) and WTO rules: Why the "burden of accommodation" should shift to MEAs, *Journal of World Trade*, Vol. 35, No. 6 (December 2001) or Sampson, G.P., Effective Multilateral Environmental Agreements and why the WTO needs them, *The World Economy*, No. 9, Vol. 24 (September 2001).

2 See United Nations Treaty Collection, Treaty Reference Guide (1999). It defines all the relevant terminology to be used when dealing with international treaties.

3 Rio Declaration on Environment and Development, in: Earth Summit: Agenda 21 – The United Nations Programme of Action from Rio, New York, 1992.

4 For more information, see WorldWatch Institute, Global Signs 2003, accessible at www.worldwatch.org/press/news/2003/05/22.

5 By way of illustration, premature deaths and illness arising from environmental factors account for about a fifth of all diseases in developing countries, greater than any other preventable factor, including malnutrition. *Economist*, 6 July 2002. Furthermore, between 1985 and 1999, developed countries sustained 57 per cent of the measured economic losses resulting from environmental disasters, representing 2.5 per cent of their combined GDP. Conversely, in developing countries that sustained only 24 per cent of the economic toll of all environmental disasters the loss was the equivalent of 13.5 per cent of their combined GDP. UN Inter-agency Secretariat of the International Strategy for Disaster Reduction (ISDR), *Living with risk*, New York, 2002.

6 UNEP, *Register of International Treaties and Other Agreements in the Field of Environment* (1999). WTO, *Matrix on Trade Measures Pursuant to Selected MEA*s, WT/CTE/W/160/Rev.1 (2001), p. 55.

7 An in-depth overview of trade measures in several MEAs is contained in WTO document WT/CTE/W/160/Rev.2 of 25 April 2003.

8 OECD, Trade measures in Multilateral Environmental Agreements (COM/ENV/TD(98)127/FINAL), Paris 1999, p. 6.

9 For instance, the 1982 UN Convention on the Law of the Sea *inter alia* aims at sustainable use of marine living resources and protection of marine environment.

10 Applying trade measures as "enforcement instruments" of MEAs is a special way of avoiding or discouraging leakage or free riding. Such measures might be authorized by the dispute settlement or enforcement mechanism of an MEA or may be taken pursuant to decisions by the COP. As will be explained later, they might be one of the sources of potential conflict with WTO rules and may also pose developmental problems for developing countries.

[11] For more information in this regard, see Abdel Motaal, op. cit.

[12] Brack, D. and Gray, K, Multilateral Environmental Agreements and the WTO, research paper, presented to the IISD/RIIA Workshop on Trade and Sustainable Development Priorities Post Doha, London, 7-8 April 2003.

[13] Jha, V. and Hoffmann, U, Achieving objectives of multilateral environmental agreements: A package of trade measures and positive measures, UNCTAD/ITCD/TED/6, Geneva, 2000.

[14] *Positive measures* is an expression that can lead to some misunderstandings if they are interpreted as being the opposite of negative measures. This is a debate that will not be further developed in this paper, but the interested reader can refer to Vaughan, S. and Delhavi, A., Policy Effectiveness and Multilateral Environmental Agreements, UNEP, Environment and Trade Series, No. 17, Geneva. 1998.

[15] For more information in this regard, see the report of the UNCTAD Expert Meeting on Positive Measures to Promote Sustainable Development, Particularly in Meeting the Objectives of Multilateral Environmental Agreements, held in Geneva from 3 to 5 November 1997. The report of the Expert Meeting is contained in documents TD/B/COM.1/9 and TD/B/COM.1/EM.3/3 (Geneva, 11 November 1997), which can be downloaded from www.unctad.org/en/special/c1em3d2.htm).

[16] The Multilateral Fund has so far disbursed more than US$ 1 billion to some 120 developing countries, i.e. arithmetically about US$ 9 million per country or almost US$ 1 million per country per annum. By way of comparison, the technical assistance trust funds of CITES and the Basel Convention for "all" developing countries have each oscillated around US$ 1.5 million per annum in recent years (to make the picture even more bleak, a considerable part of these funds has been used to fund participation of developing country delegates in meetings of the subsidiary bodies of the COPs of the two conventions). Even if all direct bilateral funding support for technical assistance and capacity building were added, the total annual budget for supportive measures has not been much more than US$ 2 million per annum for each of the two Conventions, translating into about US$ 17,000 per developing country Party.

[17] For more information, see Hoffmann, U., An analysis of effective operationalization of provisions on transfer of environmentally sound technologies to developing countries in Multilateral Environmental Agreements pursuant to Agenda 21, paper presented at the 2nd Workshop of the Project on Strengthening Research and Policy-making Capacity on Trade and Environment in Developing Countries, Los Baños, Philippines, 11-13 November 1999, accessible at www.unctad.org/trade_env/.

[18] For more information in this regard, see Castells, N. and Ravetz, J., Science and policy in international environmental agreements – lessons from the European experience on transboundary air pollution, *International Environmental Agreements: Politics, Law and Economics*, Vol. 1 (2001), pp. 405-425. Nijkamp, P. and Castells, N. Transboundary environmental problems in the European Union: Lessons from air pollution, *Journal of Environmental Law and Policy*, Vol. 4 (2001) pp. 501-517.

[19] As will be seen later, it is worth noting that several WTO panels have confirmed that it was the application of the trade measure and not the measure itself that needed to be closely examined.

[20] Ministerial Declaration of the fourth Ministerial Conference of the WTO in Doha, WTO document WT/MIN(01)/DEC/1, 10 November 2001.

[21] As the general mandate of the CTE was renewed by the DMD, WTO Members can continue to discuss the general relationship under items 1 and 5 of the CTE work programme.

[22] European Communities, *Multilateral Environmental Agreements (MEAs): Implementation of the Doha Development Agenda*, submission to the first Special Session of the WTO CTE (TN/TE/W/1), 21 March 2002.

[23] See, for instance, the interpretation of Argentina, India and the United States in their recent submissions to the CTE (Argentina -TN/TE/W/2 of 23 May 2002; India – TN/TE/W/23 of 20 February 2003; and United States – TN/TE/W/20 of 10 February 2003).

[24] See WTO document TN/TE/R/6.

[25] Ibid.

[26] Apart from some recent MEAs, there are also some older environmental accords, to which a good number of WTO Members are non-Parties. For instance, more than 20 WTO Members are currently non-Parties to the Basel Convention.

[27] Despite the opposition which developing countries have expressed in the WTO, to the use of trade measures against non-Parties, and their reluctance to provide a blanket WTO waiver to trade measures among Parties in MEAs, many developing countries have been "demandeurs" for such measures in environmental forums. For more information, see Abdel Motaal, op. cit.

[28] Several information sessions organized by the CTE with the secretariats of the MEAs have recently noted that the focus should be on developing mechanisms to help Parties comply with the obligations in a flexible and non-confrontationist manner.

[29] UNEP, *Enhancing synergies and mutual supportiveness of MEAs and the WTO - A synthesis report*, submission to the CTE (WT/CTE/W/213), 12 June 2002.

[30] For more information, see: WTO secretariat, MEAs and WTO rules: Proposals made in the CTE from 1995-2002 (TN/TE/S/1), 23 May 2002.

[31] For an overview of submissions, see WTO document TN/TE/S/3 as well as the Report by the Chairperson of CTE Special Session in document TN/TE/3 of 2 December 2002. There are also two more recent submissions by Canada (TN/TE/W/22), India (TN/TE/W/23) and the United States (TN/TE/W/20).

[32] This was proposed by Brazil, New Zealand, the Philippines, and Thailand. Peru and the United States favoured an analysis of six MEAs that would add the Rotterdam Convention on the Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade (PIC Convention), the Cartagena Protocol on Biosafety (Biosafety Protocol) and the Stockholm Convention on Persistent Organic Pollutants (POPs Convention). Summary Report on the 6th Session of the CTE Special Session, WTO document TN/TE/R/6. It should be noted in this context that the Biosafety Protocol came into force on 11 September 2003.

[33] WTO documents TN/TE/W/1, TN/TE/W/4 and TN/TE/W/16.

[34] See: Summary Report of the 6th Meeting of the CTE SS, WTO document TN/TE/R/6.

[35] See *inter alia*: Jha, and Hoffmann, op. cit.

[36] OECD, *Trade measures in Multilateral Environmental Agreements: Synthesis report of three case studies (Basel Convention, Montreal Protocol and CITES*), COM/ENV/TD(98) 127/FINAL, Paris 1999.

[37] For more information in this regard, see: Abdel Motaal, op. cit.

[38] Compiled from: WTO document WT/CTE/W/203 of 8 March 2002. The recent shrimp-turtle case, for instance, suggests two conclusions on the extraterritorial application of environmental regulation. First, such application is permissible if it is implemented in the context of an international agreement such as an MEA. Second, such measures need to be applied in a transparent, predictable and uniform way to all WTO Members.

[39] These three MEAs were selected for further review, because (i) they have a range of specific trade obligations; (ii) are sufficiently old to allow analysis for a reasonable period of time; and (iii) have further developed trade and supportive measures over the years in response to national and international requirements.

[40] Appendix I lists species for which no commercial trade is allowed. Appendix II contains species in which commercial trade is allowed, but subject to strict regulation (e.g. export and import permits and re-export certificates), in order to avoid utilization incompatible with their survival. The Convention also has an Appendix III that includes species that a Party has identified as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the co-operation of other Parties in the control of international trade.

[41] Malaysia, in its submission TN/TE/W/29, considers this provision a principle rather than an operative provision, which in its view does therefore not qualify as a STO.

[42] Depending on the narrow or broad definition of STOs, Article VIII (3), (4) and (7) could also qualify as STOs.

[43] The decisions adopted by the 12th meeting of the COP in Santiago in November 2002 to list big leaf mahogany, seahorses and two shark species in Appendix II are unlikely to change this situation significantly.

[44] Decisions by the Standing Committee of CITES on non-compliance cases have been taken by consensus and pursuant to the Convention (e.g. Articles VIII, XIII and XIV) as well as Resolutions and Decisions of the COP.

[45] Amendments to the Appendices that are adopted by the COP are legally binding. Conversely, Resolutions and Decisions of the COP are generally considered non-binding. It should be noted, however, that they have significant importance because they are based on the text of the Convention and often adopted by consensus. For more information, see the background document on compliance with the CITES Convention (COP 12, Doc. 26) and Xueman Wang, Specific trade obligations and the Biosafety Protocol, *Bridges*, Vol. 7, No. 4 (May 2003), pp. 16-18.

[46] The Standing Committee subsequently extended the deadline for legislative enactment to 31 December 2001. One country met this deadline, but the other three countries did not. It was therefore recommended, through Notification Nos. 2002/03, 2002/04 and 2002/05 that Parties suspend commercial trade in CITES-listed species with those three countries. The three affected Parties subsequently enacted adequate legislation, which lead to the withdrawal of the Notifications and the annulation of Decisions 11.15 and 11.16.

[47] It should be noted that developed countries such as Greece and Italy have also been subject to recommendations to suspend trade. Marceau, G. and González-Calatayud, A., The relationship between the dispute mechanisms of MEAs and those of the WTO, in: Heinrich Böll Foundation/ Woodrow Wilson International Centre for Scholars/National Wildlife Federation, Trade and environment, the WTO, and MEAs – Facets of a complex relationship, Conference Proceedings, Washington, DC, 29 March 2001 and Reeve, R., Policing international trade in endangered species: the CITES treaty and compliance, Royal Institute of International Affairs, London, 2002.

[48] Brack, D. and Gray, K., op. cit. and Vasquez, J.C. and Yeater, M., Demystifying the relationship between CITES and the WTO, Review of the European Community and International Environmental Law (RECIEL), Vol. 10 (2001), pp. 271-276. Generally, the use of trade measures for ensuring compliance should be confined to cases of persistent and/or serious non-compliance that is clearly the result of a lack of political will of a Party. Furthermore, such decisions should be taken by consensus among Parties.

[49] For an in-depth description of the trade provisions, see: Brack, D., International trade and the Montreal Protocol, Royal Institute of International Affairs, London, 1996.

[50] The same decision also encouraged Parties to use economic incentives to promote ODS substitutes. Such incentives should not impair international trade and should be appropriate and consistent with international trade law.

[51] According to Article 10, paragraph 1 of the Convention for the Protection of the Ozone Layer, "The annexes to this Convention or to any protocol shall form an integral part of this Convention".

[52] Parties are currently agreeing the procedures for critical uses of methyl bromide.

[53] It needs to be mentioned that the control measures of the Montreal Protocol for Article 5 countries (i.e. developing countries) for a first group of ODS (i.e. CFCs, halos and methyl bromide) became effective in 2002 for the first time. It will therefore have to be seen some time later whether the trade measures pose serious adjustment problems for some of these countries.

[54] Malaysia, in its submission TN/TE/W/29 does not consider the following provisions as STOs: Articles 3, 4.1(a), 4.2 (a-d), 4.2 (e-f), 4.7(b), 6.4, 6.9 and 6.10.

[55] This is only the second of its kind and might be the first that has a real chance of entering into force (however, only 14 Parties signed the Protocol and no Party has so far ratified the Protocol; 20 ratifications are required for the Protocol to come into effect).

[56] Article 4 (8) of the Convention stipulates that "technical guidelines for the environmentally sound management of wastes subject to this Convention shall be decided by the Parties at their first meeting". This has, however, not ushered in a decision on an operational definition of ESM. Rather, in decision 13 of COP II, Parties adopted a Framework Document on the Preparation of Technical Guidelines for ESM of Wastes Subject to the Convention. This document has, however, only launched a series of Technical Guidelines for ESM of so far about 15 specific waste streams, such as clinical/medical wastes or used lead-acid batteries. Legally, these are "descriptive" guidelines, whose implementation creates no entitlement to receive imported waste from developed countries under the Convention. In other words, the vague legal status of the Guidelines implies that any facility in a developing country, which can provide evidence of fully meeting the Guidelines for a specific hazardous waste, will not be considered ESM-compatible under the Convention and thus is not entitled to receive waste shipments from developed countries. This, however, is contrary to the original intent of Article 4(8), i.e. the import of hazardous waste as commodity. For more information, see Alter, H., Environmentally sound management of the recycling of haz-

ardous wastes in the context of the Basel Convention, *Resources, Conservation and Recycling*, Vol. 29 (2000), pp. 111-129.

[57] For instance, the world's most sophisticated lead recycling facility is in Malaysia, operated by Metal Reclamation Industries. Another lead recycling facility in the Philippines, operated by Philippine Recyclers Inc., is in the very small league of world metal recycling companies that obtained ISO 14001 certification (in this case by SGS in Switzerland).

[58] A recent review of the Basel Convention Secretariat reveals, for instance, that, in volume terms, shipments of lead, copper and zinc scrap alone accounted for about 70 per cent of global hazardous waste trade (Wielenga, K., Global trends in generation and transboundary movements of hazardous wastes and other wastes: Analysis of data provided by Parties to the Secretariat of the Basel Convention, Research Paper of the Basel Convention Secretariat, No. 14, November 2002).

[59] By virtue of joining the European Union in 2004, some of the 10 Central and Eastern European countries will also become members of Annex VII of the Basel Convention, although the ESM situation of many of their waste management and recovery facilities is inferior or at best equal to comparable facilities in rapidly industrializing countries such as Malaysia.

[60] Until the end of June 2003, 42 countries (of which 16 are developing countries) had ratified the Ban Amendment. To take effect, the Amendment has to be ratified by 62 Parties.

[61] Council Regulations 259/93 and 1420/1999 and Commission Regulation 1547/1999.

[62] They will most likely also be used by the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Convention on Persistent Organic Pollutants.

[63] One would think that emphasis should be given to firstly promoting re-engineering of industrial processes in ways that minimize or eliminate the generation of hazardous waste at source, and secondly innovation in product design for easy recovery or minimal impact at disposal or recovery.

[64] The CITES Strategy until 2005 and its Action Plan outline in objective five several measures to improve the relationship with the WTO with a view to ensuring that the trade measures adopted by CITES are appreciated and accepted by the WTO.

[65] For more information, see Brack, D., International trade and the Montreal Protocol, Royal Institute of International Affairs, London, 1996, pp. 67-68.

[66] OECD, Experience with the use of trade measures in the Montreal Protocol on Substances that Deplete the Ozone Layer (OECD/GD(997)230), Paris, 1997; OECD, Trade measures in the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (COM/ENV/TD(97)41 FINAL), Paris, 1997; OECD, Experience with the use of trade measures in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (OECD/GD(97)106), Paris, 1997.

[67] The outcome of the meeting is accessible at:
www.unctad.org/Templates/meeting.asp?intItemID=1942&lang=1&m=4221

[68] Jha and Hoffmann, op. cit.

[69] Hoffmann, U., Requirements for environmentally sound and economically viable management of lead as important natural resource and hazardous waste in the wake of trade restrictions on secondary lead by decision III/1 of the Basel Convention: The case of used lead-acid batteries in the Philippines, accessible at www.unctad.org/trade_env/test1/publications/battery1.pdf.

[70] According to Konrad von Moltke, presentation at the Workshop on Trade and Sustainable Development Priorities Post-Doha, organized by the International Institute for Sustainable Development and the Royal Institute of International Affairs, London, 8 April 2003.

[71] Paragraph 98 of the WSSD report reads as follows: "Promote mutual supportiveness between the multilateral trading system and the multilateral environmental agreements, consistent with sustainable development goals, in support of the work programme agreed through WTO, while recognizing the importance of maintaining the integrity of both sets of instruments". Accessible at: www.johannesburgsummit.org.

[72] According to some proposals, the DSM of the MEA may verify the objectives of STOs against bullets (b) and (g) of Article XX of GATT 1994 – necessity test - whereas WTO panels could evaluate the implementation of STOs against the head note of Article XX – i.e. whether they are applied in an arbitrary or unjustifiable manner or represent a disguised form of protectionism.

[73] It is often overlooked that the Biosafety Protocol also has a conditional form of implementing the precautionary approach. In accordance with Articles 10.1 and 11.6, a risk assessment is required in accordance with Article 15 and in line with risk assessment criteria outlined in Annex III.

[74] In accordance with Article 15.3 of the Cartagena Protocol on Biosafety, "the cost of risk assessment shall be borne by the notifier if the Party of import so requires".

[75] For more information, see: Morris, J., International Policy Network, accessible at www.policynetwork.net.

[76] China made a similar statement in the CTE SS on 1-2 May 2003. See: WTO document TN/TE/R/6.

[77] In particular rapidly industrializing developing countries have an interest in enhancing transparency and using multilateral disciplines when confronted with such "unilateral" trade measures.

[78] India proposed in this regard CITES, the Montreal Protocol, the Basel Convention, the Biosafety Protocol, the PIC and the POPs Convention (TN/TE/W/23), whereas Malaysia's submission (TN/TE/W/29) limits this list to the three MEAs in effect, namely CITES, the Montreal Protocol and the Basel Convention.

[79] See Xueman Wang, op. cit.

[80] As mentioned in the box above on recent WTO dispute settlement practice related to Article XX of GATT, the interpretation has evolved from a least trade-restrictive approach to a less trade-restrictive one, supplemented with a proportionality test (i.e. a process of weighing and balancing a series of factors).

[81] The first proposal in this regard was made by New Zealand in 1996 calling for the drafting of an "understanding" covering all WTO agreements to be used by panels (see WTO documents WT/CTE/W20). Besides New Zealand, Japan and Canada have also argued in favour of drafting "guidelines" or an "understanding", to be used by WTO panels in deciding the consistency of trade measures taken pursuant to MEAs.

[82] For more information, see Abdel Motaal, op. cit.

[83] A more elaborate version of these criteria was outlined in section VII.1(a) under "factors contributing to success".

ARTICLE 2:
ENVIRONMENTAL GOODS AND SERVICES: DEFINING NEGOTIATIONS OR NEGOTIATING DEFINITIONS?

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A. Introduction

At the Fourth WTO Ministerial Conference in Doha in November 2001, WTO Members agreed to negotiations on "*the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services*".[1] The Doha Ministerial Declaration (DMD) states that negotiations on trade liberalization in environmental goods and services (EGS) should enhance the mutual supportiveness of trade and the environment, suggesting a potential for "win-win" outcomes.[2] The uncertainty about definitions and classification of the environmental industry enhances the impression that there is everything to play for in the negotiations and that there are potential gains for developed and developing countries.

Even a cursory look at the environmental industry suggests that the developed countries will be looking for winning propositions in terms of market access. For developing countries, it is access to EGS that is going to be more important. Their potential gains are in improved environmental conditions and resource management at home, and in strengthened capacity to comply with environmental requirements abroad.

Will environmental benefits go to one set of countries and trade gains to another?

This "win-win" scenario begs some uncomfortable questions. First, does it mean that environmental benefits will go to one set of countries and trade gains to another? Contrary to the economic theory, the negotiating "logic" at the WTO says that imports are "bad" and exports are "good". This logic has been defied only in three sectoral agreements reached since the Uruguay Round — on information technology, financial services and basic telecommunications services, where a large number of developing countries that had signed on were not, and did not expect to become, exporters in the near future. The mandate provided for in paragraph 31 (iii) of the Declaration, although sector-specific, does not amount to a sectoral agreement. In fact, paragraph 16 of the Declaration states that the negotiations "shall aim to eliminate barriers to products of export interest to developing countries". The Declaration also reaffirms the guidelines for the services negotiations in that they "shall aim to increase the participation of developing countries in trade in services".[3]

What is it exactly that the WTO Members may achieve with the negotiations that they would not be able to achieve without them?

Second, if the liberalization of trade in EGS is so clearly in the interests of the developing countries, why have they not liberalized their environmental markets already? Or, to put this question in the future tense, what is it exactly that the WTO Members may achieve with the negotiations that they would not be able to achieve without them? Even if there were no paragraph 31 (iii) in the Declaration, EGS — no matter how they were defined — would have been within the scope of the negotiations. On the other hand, the

Will the liberalization of trade in environmental goods take place in conjunction with environmental services?

liberalization of trade in EGS is not going to take place automatically just because they have been defined as environmental.

Third, will the liberalization of trade in environmental goods take place in conjunction with environmental services? The language of the Declaration is ambiguous. No such link has been established in the negotiations so far. On the other hand, the recognition of the integrated nature of environmental activities is the key feature of current definitions and classifications of the environmental industry. This leads some analysts to believe that trade negotiations on environmental goods and environmental services have to be put "on a concurrent path".[4] Others disagree and point to divergent trends in trade flows, with international sales of environmental equipment (hardware) outpacing those of services (software), to growing trade in environmentally preferable products (EPPs), and to a broadening range of commercial services that are integral to environmental activities.[5]

How to balance market access with public services?

Fourth, how to balance market access with public services? Environmental infrastructure services, such as water and wastewater management, are of vital importance to the economy and society, be it in terms of public good, public interest or public ownership. Liberalization may lead to increased participation of domestic and foreign private actors in these sectors and raise issues of ownership of, and control over, essential environmental resources. This question takes on particular importance owing to the emergence of "public services trans national corporations (TNCs)" in the water sector, which is in part influenced by other public utilities, especially electricity. Although Governments' *right to regulate* was reaffirmed in the Doha Declaration,[6] a country's *ability to regulate* is relative to its economic and negotiating capacity.

How to ensure that liberalization efforts at the WTO are commercially, financially and technically viable?

Fifth, how to ensure that liberalization efforts at the WTO are commercially, financially and technically viable? Such efforts should be considered in connection with possibilities of financing these efforts. No institutional linkages have been established between the negotiations and all the different forums that deal with development finance and assistance. There are constraints on the supply side to which the WTO is ill equipped to respond. The question is, how to promote "positive coherence" between the negotiations in the WTO and environmental infrastructure projects financed by multilateral financial institutions, in terms of meeting financial needs and building capacity, as opposed to pre-empting negotiating margins and forcing premature liberalization?

This article is an attempt to project these, and other, related issues onto the negotiations in the WTO. Part I looks at how EGS are defined conceptually and in market terms; Parts II and III review negotiating approaches to environmental goods and services; Part III touches on systemic issues; and Part IV offers some conclusions.

B. Defining environmental goods and services

1. Concepts

According to OECD estimates, half of the environmental goods that will be in use 10 to 15 years from now do not currently exist

The notion of an *environmental industry* seems to be a misnomer against the background of a constant shift in the economic structure towards more sustainable practices. The industry is rapidly growing and changing, and it suffers from a lack of clear identity and poor representation as a sector in its own right. In fact, it is "less of a sector than an agglomeration of providers of many types of goods, services and technologies that are usually integrated into production processes".[7]

"Environmental restructuring" makes any definition relative. According to OECD estimates, half of the environmental goods that will be in use 10 to 15 years from now do not currently exist.[8] The bulk of the industry value is in low-tech services, which are not much different from routine, housekeeping functions and require engineering and management skills as well as capital rather than proprietary technology. At the high-tech end — that is, clean(er) technologies and upstream changes in products and process and production methods (PPMs) — it is difficult to draw the line between pollution prevention and better process control.

National definitions of the environmental industry vary in criteria and scope. For example, Canada, Japan and the United States have adopted broad definitions of the environmental industry. Italy, Germany and Norway, on the other hand, have chosen narrow ones, limiting their environmental industry to essentially pollution prevention activities and related commercial services, such as engineering, R&D and, in some cases, consulting.

At the international level, the OECD and the Statistical Office of the European Communities (Eurostat) have taken the lead in defining and classifying the environmental industry for analytical purposes as "activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems".[9]

This definition serves as a basis for an indicative list that extends across all environmental media. It includes goods and services "*which provide environmental protection in different domains: water, solid waste, air, soil, noise, natural resources, and miscellaneous services*"[10] and classifies them under three broad headings — pollution management, cleaner technologies and products, and resource management.[11]

Environmental goods are defined in two ways: through *environmental services, or* as *an "environmental service".*

As far as environmental goods are concerned, they are defined in two ways: *through* environmental services, or *as* an "environmental service". The first category comprises goods that are integral or incidental to the delivery of environmental services, such as wastewater treatment or waste management. The second category consists of goods that are *environmentally preferable* to other, similar, *like* in trade parlance, products.[12] These two categories are not mutually exclusive. In the OECD classification, EPPs fall into cleaner technologies or resource management groups, and may or may not be integral or incidental to the delivery of environmental services.

There is no universally accepted understanding or concept of EPPs.[13] UNCTAD defines EPPs as products which cause significantly less "environmental harm"[14] at some stage of their "life cycle"[15] than alternative products that serve the same purpose, or products the production and sale of which contribute significantly to the preservation of the environment.[16] A typical basket of EPPs includes goods that are superior to petroleum-based products, for example jute and biofuels, or produced in an environment-friendly way, for example organic coffee, cocoa, tea, chemical free cotton and tropical timber from sustainable forests, or goods that contribute to the preservation of the environment, for example bio-pesticides.[17]

Recycling, reuse, biotechnology and energy technologies have extended the range of EPPs to include among others energy-efficient lighting fixtures, washing machines, televisions and audio equipment; low-toxicity or non-toxic paints; construction materials such as flooring made from recycled plastic; biodegradable material, zero-emission and hybrid technology automobiles; methane and other biofuels derived from industrial or agricultural waste; and renewable electricity generated by solar and wind technologies.

There are trends towards product development and market creation in *ecosystem goods and services*, for example bio-trade or Kyoto Protocol markets.[18] Biodiversity-based products have a high potential for value-adding and serve as a source of innovation in the biotechnology, cosmetics, pharmaceutical and agrochemical industries.

Whether or not climate-related and some other ecosystem services can be considered environmental services and potentially benefit from preferential treatment in trade is a question for the future. Services that have emerged from the Kyoto Protocol consist of emissions trading and emissions offset services. The Kyoto Protocol only has provisions for emissions trading at the State-to-State level, for the States' own allowance purposes. It recognizes the potential role of private trading, but makes no actual provision for it. If, and when, transactions take place at the company-to-company level, it would be difficult to distinguish emissions trading from other kinds of capital market transactions. As far as emission offset services are concerned, that is the process of the issuance of the permits themselves or their use for government compliance purposes — they would constitute a form of government regulatory activity rather than a service.

2. Markets

As it is typically less costly and more accurate to survey the sales side of an industry, all market estimates are based on the supply side approach and made according to three sources of revenue generation: services, equipment or resources.

The total market size is estimated at US$ 550 billion[19]. The environment industry grew by over 14 per cent between 1996 and 2000. Over-capacity slowed annual growth in the developed countries to 1.6 per cent in 2000 and 2001. During the same period annual growth in developing countries was at 7 to 8 per cent. Analysts expect that the industry will continue to expand, reaching over US$ 600 billion by 2010.[20] In relative terms, this is not as big as the steel or agriculture markets, but roughly the same size as the pharmaceuticals and information technology markets. Most of the growth will continue to take place in developing countries and economies in transition, at an annual rate of 8 to 12 per cent.

Market forecasts reveal the following scenarios: (i) significant technological upgrading in the energy sector, and (ii) increasing trade volumes, particularly in sectors where sales price is affected by labour costs.

Market forecasts reveal the following scenarios: (i) significant technological upgrading in the energy sector, which is set to become the fastest growing sector as electric power generating companies install more efficient pollution-control equipment and replace old, coal-and oil-fired capacities with generating sets based on natural gas or renewable energy; and (ii) increasing trade volumes, particularly in sectors where sales price is affected by labour costs.

Markets in developed countries are mature: they are highly competitive, with a sophisticated customer base, and experience slow or negative growth in many segments. Environmental regulations are by far the most important factor. However, in spite of regulatory drivers, environmental markets are very sensitive to economic cycles. Other important factors are education, information and consumer pressure, economic and financial considerations and tax policies. Mergers, acquisitions and general consolidation are affecting the structure of the industry as market instruments offer the potential to augment regulations in some segments, creating an incentive for "better than compliance" through partial internalization of environmental costs. This shift has tipped the balance in the integrated packages of technology-intensive environmental activities in favour of services and more cost-effective multimedia approaches.

Conversely, markets in developing countries represent compelling environmental and resource management *needs* associated with population growth, urbanization and material-intensive patterns of economic activity. The usual sequence of evolving priorities is the following: water delivery, wastewater treatment, air pollution control, solid waste disposal, hazardous waste management, and remediation. Turning these needs into *demand* for environmental goods and services is a gradual process, which hinges on a number of factors: regulations and enforcement; availability of capital; and the nature of the ownership and contract mechanisms to ensure collection of fees, especially for water and waste infrastructure projects etc.

Developing countries are not a homogeneous group, however. Most are in the first phases of addressing environmental problems through command and control instruments. This is likely to generate demand for a broad spectrum of environmental goods and services relating to health and sanitation. Other developing countries are introducing market instruments to complement regulation, which generate differentiated demand for goods and services in cleaner technologies and resource management. The gradual shift towards cleaner production is increasingly evident in both national and development cooperation programmes. Cost-efficiency mainly drives this trend, because of the gap between environmental needs and financial resources available for environmental purposes. Environmental services in developing countries are also supplied through joint ventures.

The environmental industry is characterized by a few dominant multinationals operating in the water and wastewater management sectors, and a large number of small and medium-sized firms in solid waste management. Water and wastewater services tend to be natural monopolies and, given their importance to human health, the environment and social policies, are influenced heavily by the public authorities. They are mostly provided through monopolistic structures, public or private, with the public sector being the traditional main supplier. Competition in these sectors takes place *for* markets, rather than *in* markets. These services are highly subsidized in many developing countries, but also in some developed countries.

Municipal services such as water delivery, water treatment and garbage collection are gradually being privatized in the United States, though not to the extent that these services, especially water, have been privatized in European countries, particularly France and the United Kingdom. Some developing countries and regional groupings are positioning the private sector as an important player in environmental infrastructure services. At the same time, in a number of developing countries, the poor performance of private companies has led the Governments to rethink private sector involvement – both domestic and foreign – in the delivery of environmental services.

A variety of arrangements are formed along the public-private continuum, such as management contracts, build-operate-transfer (BOT) contracts and concessions. Working out the equation of asset ownership, capital needs and risk is not easy and requires building regulatory capacity. Multilateral and bilateral lending agencies are important factors in determining how environmental projects are developed and operated by the public and private sectors.

Working out the equation of asset ownership, capital needs and risk is not easy and requires building regulatory capacity. Multilateral and bilateral lending agencies are important factors in determining how environmental projects are developed and operated by the public and private sectors.

3. Trade flows

The combination of over-capacity in developed countries, industry consolidation, privatization and deregulation of utilities increases the "tradability" of environmental goods and services, particularly in more mature areas such as water and waste management, and air pollution control (APC).

The European Union, the United States and Japan have considerable surpluses in trade. The European Union is the biggest exporter;[21] the United States and Canada form the biggest market for EU products and services. South-East Asia has recently been replaced as the second biggest market by countries acceding to the European Union. Some smaller countries, for example Finland and Norway, have very internationally oriented industries that export almost half of their production. Australia and Canada are expanding their environmental exports, but do not have a large share of the global market. Developing countries are net importers of EGS. Their exports tend to be oriented mainly towards regional markets.

However, recent trends in global environmental trade flows indicate a considerable slowing of growth in export revenues generated by environmental companies in developed countries. For example, in the case of the United States, statistics derived from annual surveys by Environmental Business International Inc. indicate that environmental exports (goods and services) grew by an average of 17 per cent per year during the five-year period from 1993 to 1997, and export growth rates subsequently fell to an annual average of six per cent during the five-year period from 1998 to 2002. Firms in other developed nations such as Germany and Japan also report decreased activity in international markets.

Capacity in environmental goods and services is growing in certain developing nations, mostly from involvement in partnerships with established foreign firms but also from the increased demand in their domestic market. However, there are few data to indicate that any of this capacity is translating into exports.

The slowing of overall economic growth is a significant reason for the recent decline in environmental exports, particularly in South-East Asia and Latin America, but interviews with a number of companies by *Environmental Business Journal* indicate that the vast majority of environmental firms consider developing markets too risky and not profitable enough to validate the additional efforts of developing overseas business. This is particularly true of small companies that make up the vast majority of the environmental industry, but many large companies have pulled back from international markets as well. Both Waste Management Inc. and Allied Waste, the United States' largest and second largest environmental firms respectively, have divested themselves of foreign operations and eliminated any efforts to develop overseas business in solid waste. Japanese equipment firms have responded to tighter economic conditions by focusing on more predictable domestic markets. The United States, German and Dutch firms have cited inconsistent market demand and other barriers to pursuing more work outside western Europe, including public procurement problems, tariffs, difficulty in collecting payments and currency issues among others.

There is anecdotal evidence from interviews with environmental industry executives that capacity in environmental goods and services is growing in certain developing nations, mostly from involvement in partnerships with established foreign firms but also from the increased demand in their domestic market. However, there are few data to indicate that any of this capacity is translating into exports.

While the current data indicate that international trade flows in EGS appear to be growing, it is clear that trade in EGS is not growing as fast as it once was.

Overall, while the current data indicate that international trade flows in EGS appear to be growing, it is clear that trade in EGS is not growing as fast as it once was. During the period from 1990 to 1997, in the opinion of environmental executives, there seemed to be more opportunity in developing markets in purely commercial terms and compa-

nies and even Governments were more actively promoting programmes for environmental exports based mostly on the prospects for export growth. Experiencing difficulties in international environmental markets led many firms and Governments to pull back, and more efforts in international environmental exchange since the year 2000 have been oriented towards developmental rather than commercial goals. The prevailing business climate in the environmental industry makes the removal of trade obstacles more pertinent than ever before.

4. Barriers to trade

Actual or potential limitations to trade in EGS arise from tariff barriers and non-tariff barriers (NTBs) in the case of goods, and from restrictions with respect to market access and national treatment in the case of services.

Currently applied and bound tariffs on many capital goods used to provide pollution-management services are low in developed countries — generally under three per cent for products on the OECD list.[22] In most developing countries these tariffs remain relatively high, with the bound tariffs ranging from 20 to 40 per cent, and applied rates mostly ranging from 10 to 20 per cent. In some cases the rates are considerably higher. In practice, imports of environmental goods may sometimes benefit from incentives.

Technical regulations affect the type of environmental goods used to meet environmental requirements. The lack of uniformity of environmental requirements in different national markets has been an important NTB. In particular, standards and certification requirements affect trade in EPPs. On the other hand, trade in niche products seeking to enter new markets may be hindered by the lack of appropriate standards for such products. Also, imported environmental technologies need to be tested and certified by local authorities in individual markets.

As compared with other sectors, liberalization of trade in environmental services through binding commitments under the General Agreement on Trade in Services (GATS) appears so far to be rather limited. Also, the scope of existing commitments is restricted in a number of cases by horizontal limitations and restrictive definitions of the activities covered.[23] On the other hand, few limitations to market access and national treatment have been scheduled. In practice, WTO Members' policies may be more liberal than what is reflected in their schedules.

The main way to trade environmental services is through commercial presence (mode 3) and the temporary movement of natural persons (mode 4), given the need for highly specialized professionals in many of these services. Therefore, the main obstacles to trade have to do with restrictions on foreign direct investment (FDI) and the participation of foreign service suppliers in domestic industries. Commercially meaningful liberalization of environmental infrastructure services requires market access in environmental support services such as construction, engineering, legal and consulting services, where mode 4 is an increasingly relevant factor.

Where there is a strong public function to the provision of certain essential services such as water supply and waste management, trade may be affected by monopoly, public or private, or exclusive supplier rights in respect of public utilities. Government procurement is also an important factor as Governments are often the largest, and sometimes the only, buyers of environmental goods and services. Subsidies provided to the

domestic environment industry may become trade barriers for environmental goods and services from other countries.

The production of environmental goods and services, particularly in developing countries, implies substantial access to environmental technologies, and a significant amount of environmentally sound technologies (ESTs) involve proprietary knowledge.[24] Barriers to trade in environmental goods and services may also be created where specific patented or patentable technical knowledge is adopted as a standard for an industry, through governmental regulation or through standards.

C. Negotiating environmental goods

The experience of the Asia-Pacific Economic Cooperation (APEC) with the Early Voluntary Sectoral Liberalization initiative (EVSL), which included the environmental sector, provides an interesting background.

1. Pre-negotiating history: APEC

The experience of the Asia-Pacific Economic Cooperation (APEC) with the Early Voluntary Sectoral Liberalization initiative (EVSL), which included the environmental sector, provides an interesting background. It is important to recall that the EVSL initiative was launched in 1997 when WTO Members had just completed the Information Technology Agreement (ITA). The ITA was initiated by the Quad countries, and was concluded when economies accounting for more than 90 per cent of trade had signed up. The idea behind the EVSL was to replicate the ITA process, with APEC economies rather than the Quad, or some other groups of countries, picking the sectors. The original intention was for APEC to develop frameworks for the agreements, namely product coverage and phase-out periods for tariffs. Once the framework agreements had been developed, APEC would go to the WTO to seek broader support for the proposals.

APEC spent the rest of 1997 identifying the sectors, and 1998 developing framework agreements. Along the way, some economies pushed for the conclusion of agreements within the APEC context. Trade liberalization at APEC is propelled not by negotiations but by voluntary initiatives, individual and collective. As nothing much had happened on that account, APEC economies have returned to the original idea. They shifted the tariff part of the EVSL to the WTO, and focused on dealing with NTBs and economic and technical cooperation (*trade facilitation* and *Ecotech* in APEC parlance), which was actually the innovative part of the EVSL.

Whether WTO Members will be able to find viable trade interests and reconcile these in the negotiations depends on the way these goods are defined for negotiation purposes; the treatment of these goods in the Negotiating Group on Market Access (NGMA); the relative importance of tariffs and NTBs; and, last but not least, the supply capacity.

Much discussion these days is centred on the APEC list of environmental goods. The list was drawn up on the basis of *individual nominations*, not unlike the request and offer procedure used in trade negotiations. In drawing up its list, APEC referred to the OECD/Eurostat definition.[25] However, there are differences between the APEC and the OECD lists. For example, minerals and chemicals for water and waste treatment appear only on the OECD list, while the APEC list includes a broader set of goods for environmental monitoring and assessment. The lists are very similar with regard to solid and hazardous waste. In other areas, such as APC, they are remarkably different, which is in part due to the fact that some multiple-use goods are listed under different headings. APEC's approach — *individual nominations* — has recently been advocated by the US delegation in the context of negotiations at the WTO.

Whether WTO Members will be able to find viable trade interests and reconcile these in the negotiations is anybody's guess, and the guesswork is being done along the following lines: the way these goods are defined for negotiation purposes; the treatment of

these goods in the Negotiating Group on Market Access (NGMA); the relative importance of tariffs and NTBs; and, last but not least, the supply capacity.

2. Definitions and criteria

While defining environmental goods for analytical or statistical purposes is a matter of fact, defining environmental goods for the purposes of trade negotiations is a matter of a policy. As is always the case with distinguishing between *like* products, it matters whether one likes – or does not like – a particular product. And given the differences in negotiating perspectives, countries may find it difficult to share their likes and dislikes.

While defining environmental goods for analytical or statistical purposes is a matter of fact, defining environmental goods for the purposes of trade negotiations is a matter of a policy.

This is not to say that the negotiations cannot proceed in the absence of an agreed definition. They certainly can, and, at least for the moment, this seems to be the most likely scenario. For instance, the negotiations may turn into a "barter economy", with WTO Members trying to make deals by seeking to identify bilateral coincidences of wants. In this case, a list of environmental goods may evolve as a postscript to a bottom-up process of bilateral requests and offers, with subsequent multilateralization of concessions.

It is also possible that WTO Members will seek to agree on such a list *exante*, based on a *convention*, namely a common understanding or a list rather than a strict definition. Such a list may be based on a combination of criteria, which will have to be derived from the concept of a *like product*: end-use; properties, nature and quality; consumer tastes and habits; tariff classification; and product-related PPMs. For instance, the (predominant) end-use criteria can be applied to goods in the pollution control category, performance standards to energy goods, and specific, non-PPM criteria to EPPs. Some environmental goods can be captured in the Harmonized Commodity Coding and Description System (HS). These same criteria may alternatively be used for an *ex-post* assessment of liberalization in environmental goods in case they receive no special treatment in the negotiations.

Whatever the criteria for environmental goods are, making these criteria operational is going to be difficult as countries will have to grapple with problems such as confirming systems to be used at customs, their administrative costs, and the identification of environmental goods among similar products.

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Differentiation by end-use is, by and large, difficult to make operational for customs purposes. There are some high-tech approaches to solving the problem. However, the bulk of volume — and value — of trade in environmental goods is low-tech, and it would not make much sense to apply high-tech methods to low-tech goods. For high-tech environmental goods, end-use is less of a problem as most of them tend to have been designed and made specifically for environmental purposes.[26]

Few HS headings at the 6-digit level consist uniquely of goods that could be considered part of the environmental industry. Procedures used to classify goods in the HS do not easily accommodate distinctions other than those based on physical characteristics or function. In addition, the HS tends to be more specific for some goods, for example chemicals used for environmental purposes, and less specific for others, for example electrical or mechanical goods.

The two options available to countries in dealing with products that are currently not captured in the HS are to amending the HS at the 6-digit level, or to introduce national

tariff lines, with their subsequent harmonization. Because of the point reached in the current cycle by the World Customs Organization (WCO) in amending the HS, it would be difficult to make new changes within the time frame of the Doha negotiations.[27]

APEC members adopted a pragmatic approach to the problem, based on two criteria: (i) prevalence of the environmental goods in a given tariff heading, and (ii) the importance of a particular product to the environmental industry. For instance, if all or the majority of goods in a 6-digit category were used for environmental purposes, all products within that 6-digit category would be included. If "environmental goods" within a 6-digit category were in the minority, but APEC economies agreed that those products were important to the environmental sector, again the entire 6-digit category would be included. This approach provided the rationale for inclusion of the most important environmental goods at the 6-digit level.[28] If APEC members could not agree at the 6-digit level but still felt that coverage of a particular good was warranted, they would leave it up to each individual member to reflect that good in a narrower, 8- or 9-digit level national tariff line, as appropriate, which explains the use of "ex" headings in the APEC list.[29]

Identifying EPPs would in most cases require (third-party) *certification or eco-labels*. As there is no single, international definition of this class of products, labelling and certification schemes tend to proliferate. A number of such schemes have been notified under the Agreement on Technical Barriers to Trade (TBT). In fact, over the past decade, notifications relating to environment have been the largest category — 10 to 15 per cent according to the WTO Secretariat.[30] Within the environmental category, the largest subcategory of notifications involved product performance standards related to energy efficiency.[31]

The scope for the application of PPMs as criteria in the WTO is limited to those that are expressed in physical, chemical, functional differences of *like* products. The European Union seems inclined to include certain products on the basis of PPMs. The majority of WTO Members oppose defining environmental goods through PPMs as PPM-based criteria can create a new set of standards, prompt changes in customs classifications or lead to systemic problems.

In a recent paper, the OECD looked into customs classification issues raised by various criteria.[32] The WCO Secretariat has examined trade flows in some categories of environmental goods and may be asked to provide advice on some practical questions that may arise in the negotiations.

3. Treatment of environmental goods in negotiations on market access

Environmental goods may receive no special treatment in the NGMA — that is, they will be subject to the same modalities as other non-agricultural goods. Or the WTO Members may agree on tariff liberalization on a much broader range of goods, effectively obviating the need for any special treatment of environmental goods. In both cases, the implementation of the agreement stipulated in paragraph 31 (iii) of the Doha Declaration would effectively turn into an *ex-post* environmental assessment of trade liberalization in non-agricultural goods.

Should environmental goods receive special treatment in terms of deeper cuts or even a zero-for-zero approach, WTO Members would have to decide on the coverage of the negotiations, which would bring to the fore issues relating to definitions and criteria.

As this article is being written, the priority is being given to reaching agreement on modalities for reducing tariffs on *all* goods. Following the completion of this exercise, the NGMA would evaluate whether additional reductions were necessary on environmental goods.

The discussions on environmental goods have demonstrated a need to promote practical approaches to defining environmental goods for negotiations purposes, which would require linking definitions to modalities.

The discussions on environmental goods have demonstrated a need to promote practical approaches to defining environmental goods for negotiations purposes, which would require linking definitions to modalities. This is the rationale behind the proposal made by the United States at the July Special Session of the Committee on Trade and Environment (CTESS). The proposal, largely based on APEC's experience, argues for *two* lists of environmental goods. A *core list* would comprise products on which there is consensus that they constitute environmental goods. On the basis of experience with the EVSL, the United States proposes that the *core list* comprise the following two categories: environmental remediation or pollution prevention, and clean technologies. In all those cases where consensus cannot be reached for particular goods, individual Members could nominate these goods for a *complementary list* that would be available for consideration by all WTO Members. The nominations should enjoy some support from other Members to avoid a situation where the complementary list would turn into a wish list. The proposal establishes some conditions for the nominations and provides for less than full reciprocity, but leaves open procedures and criteria.

If implemented, the US proposal would expand the scope for the negotiations on environmental goods. The question is whether it would be beneficial to developing countries, and under what conditions. One way to look into this question is to create *model lists* of environmental goods of export and import interest to individual countries.

4. Relative importance of tariffs and NTBs

Tariffs on environmental goods in developed countries are at nuisance levels, while tariffs in developing countries follow the general pattern for industrial products. The applied rates have gone down since 1996. The negotiations may reduce bound rates and increase the coverage of bindings, but this will not amount to much in real terms of reducing tariff assistance in developing countries. For EPPs, tariffs are even less of a problem. Ironically, most proposals skip the issue.

While certification and labelling schemes alone cannot define the basket of environmental goods, discussing the issues involved might help in designing policies that go beyond tariff-based approaches.

While certification and labelling schemes alone cannot define the basket of environmental goods, discussing the issues involved might help in designing policies that go beyond tariff-based approaches. It is important to ensure that any selection of categories of EPPs for negotiating purposes is based on objective criteria to avoid possible new NTBs and additional costs, for example for certification. For instance, the proposal by Japan that energy-efficient consumer products be included may give rise to some practical problems. Eco-labels have been a source of concern for developing countries, and any discussion of eco-labelling in the context of environmental goods should address both their advantages and disadvantages. One issue is repeatedly being raised in discussions on EPPs: environmental regulations, including packaging and recycling directives in developed countries, especially European countries, discriminate against environmentally friendly and bio-degradable products from developing countries and favour local recycling and waste disposal systems.

The ongoing work in the OECD on the role of third-party certificates in the identification of goods defined by objective criteria, such as energy consumption, is of interest. So is the work of the International Energy Agency on tariff and non-tariff barriers to

exports of various technologies used to exploit renewable energy, and UNCTAD's work on harmonization and equivalence in organic agriculture.

5. Supply capacity

The proposed lists of environmental goods are selective in their coverage and centred on environmental equipment, chemicals (OECD list), scientific instruments (APEC list) and a few energy-efficient consumer products (Japan's list) and technologies (Qatar's proposal). In general, developing countries are net importers of these products and their applied tariffs are higher than those in the developed countries.

During the period from 1996 to 2001 developing countries as a group were net exporters for only 14 of 182 environmental goods on the OECD and APEC lists.[33] Examples include clean fuels (ethanol), chemicals, articles of cast iron, some energy-efficient goods such as fluorescent lamps, space heating and soil heating apparatus, thermometers, pyrometers, and artisanal manufactures such as hand brooms.

The products on either the APEC or OECD lists represent not more than three per cent of exports and not more than six per cent of imports of manufactured goods, i.e. products covered by the negotiations in the NGMA.

Trade flows between developed and developing countries in goods on the OECD and APEC lists do show an improving balance for developing countries.[34] However, this trend has to be adjusted for the shifting horizon of environmental industry, where time is a factor. Besides, since the lists identify environmental products by a large number of tariff lines at lower than the 6-digit level of the HS, and the statistics have been generated at a 6-digit level, the data for a large number of these products are inflated. South-South trade may be relatively more important, in particular trade between developing countries in Asia. Trade data for all regions show that the products on either the APEC or OECD lists represent not more than three per cent of exports and not more than six per cent of imports of manufactured goods, i.e. products covered by the negotiations in the NGMA.

Differing export structures in developing countries on the one hand, and the importance of South-South trade on the other, may lead to a wide differentiation of negotiating approaches and views on definitions and criteria. A closer look at the hypothetical universe of "environmental goods", through the lens of APEC and OECD lists and the proposals made by Japan[35] and Qatar,[36] reveals a mixed picture. It is impossible to second-guess the negotiators and predict which categories of products will eventually receive the support of the WTO membership. However, if one were to draw a "vector" of some views that have gained currency in para-WTO discussions, it would point to the following conclusions:

- End-of-pipe pollution control equipment (OECD and APEC lists): the views expressed are generally positive, except for items with significant other industrial uses;
- Minerals and chemicals for water/waste treatment (OECD list): positive;[37]
- Monitoring and testing equipment (APEC list): there is a preference for complete systems specifically designed and made for environmental purposes, with high-tech content;
- Renewable energy (OECD and APEC lists): positive, except for large hydraulic turbines;
- Energy-efficient consumer products (Japan's proposal): generally negative;
- Low carbon, natural gas to liquid fuels (diesel, naphtha) and energy technologies (Qatar's proposal): there is a feeling that the proposal raises issues with important implications and may better be left to the Kyoto Protocol.

The search for products of export interest to developing countries revolves around EPPs, more specifically:

- Non-timber forest products and products derived from traditional knowledge: the views are positive;
- Products made with natural fibres: positive;
- Handloom products and products made using natural dyes: positive;
- Organic agricultural products:[38] negative, also negative with regard to other products identified on the basis of non-product-related PPMs such as certified timber products and fair trade products.

D. Negotiating environmental services

Environmental services play an important role in the ongoing negotiations under Article XIX of the GATS. Most developing countries have been requested to undertake specific commitments in all environmental services, the requests largely coming from developed countries. Some members have incorporated new, or improvements in existing, commitments: of 26 initial offers, 9 have incorporated environmental services. The European Union has made requests for liberalization of environmental services to 64 WTO members, but on a differentiated basis. The proposal by the European Union is indicative of the strong trade interest of EU companies in all environmental services.

At the present stage, the negotiations on environmental services raise the following issues: increased country coverage and reduction of barriers to trade, especially for mode 3 and mode 4; updating the classification of environmental services for negotiations purposes; a common understanding of what is meant, in a commercial sense, by some proposed new categories of services such as biodiversity protection, remediation and clean-up of soil and water; a need for a clear picture of the extent and scope of subsidization of environmental services; government procurement; qualification and certification requirements for individual service providers; tied aid;[39] and technology transfer[40]. The task of the negotiations is to set the right framework, which would require promoting convergence on the classification and identifying and reducing the main barriers to trade.

Environmental services differ greatly in market structure and behaviour, regulatory frameworks and technological development

Environmental services differ greatly in market structure and behaviour, regulatory frameworks and technological development. Although the Services Sectoral Classification List (W/120), based on the Provisional Central Product Classification (CPC Prov.),[41] is the main instrument used in the WTO, Members are free to use any classification they see fit or to develop a classification of their own. In any case, it is useful to distinguish between (a) environmental infrastructure services, mainly related to water and waste management, (b) non-infrastructure, professional environmental services, comprising most of the activities in CPC Division 94, for example site clean-up and remediation, cleaning of exhaust gases, noise abatement, and nature and landscape protection; and (c) related services with an environmental component, classified under different divisions in the CPC, such as construction or engineering services. These distinctly different categories of environmental services will require different approaches in the negotiations, as well as on the domestic front.[42]

1. Environmental infrastructure services

Environmental infrastructure services have some of the characteristics of a public good, and the key concerns in these services are universal access and prices. The overriding objective is to build domestic capacity by aligning liberalization with evolving

developmental and environmental priorities. This objective will move to the forefront of issues relating to domestic regulatory regimes.

GATS neither requires nor precludes a particular regulatory regime. WTO Members are free to design a regime of infrastructure services regulations according to their national priorities and development strategies. They must, however, observe certain GATS disciplines when adopting and implementing particular regulatory instruments. They must also be aware that GATS creates a momentum towards liberalization of service regulation.[43]

WTO Members choosing a regulatory regime that relies on government intervention and restrictions of economic activities may have to be more aware of possible constraints of GATS on national regulation than WTO members opting for solutions relying on competition and market forces.

The GATS in its totality does not apply to services supplied in the exercise of governmental authority that are not provided on a commercial basis or in competition with other service suppliers. GATS gives WTO Members the flexibility to maintain these services as a monopoly, public or private, or open them to competing suppliers, but to restrict access to national companies.

The US approach is of interest. The US offer applies only to environmental services open to private sector participants and does not give foreign service suppliers the right to acquire or invest in government monopolies supplying services. This offer does not include water supply or distribution as the United States considers that GATS is not the appropriate vehicle for pursuing privatization of US public services.[44]

WTO Members who want to commit certain sectors should carefully assess their regulatory regime and the implications of market access and national treatment for it and should also consider their need for future regulatory flexibility when scheduling limitations to their commitments. Arguably, the specific commitments of market access (Article XVI of GATS) and national treatment (Article XVII of GATS) have the greatest potential impact on national regulatory regimes.

Public monopolies also constitute a restriction of market access and require scheduling. The national treatment obligations may have even a greater impact. An issue most relevant to public services is subsidies. Since there are currently no specific regulations on subsidies in GATS, a discriminatory subsidy could violate national treatment.

Water regulation often pursues goals that are specific to the water sector, such as managing scarce resources, guaranteeing drinking water quality, and aiming at or securing universal access to water. Water regulation can also aim at other goals such as efficiency of distribution, transfer of technology or rural and agricultural development. Some of these goals may require instruments that could be incompatible with market access and national treatment and may therefore require the scheduling of limited commitments or abstention from commitments altogether.

GATS is a flexible instrument, but only if it is used in such a way.

GATS is a flexible instrument, but only if it is used in such a way. Options available to developing countries in managing the impact of liberalization of public services under GATS include horizontal exclusion of public services (e.g. Dominican Republic); sector-specific exclusion of public services (e.g. Norway and Switzerland); commitments limited to private sector suppliers (e.g. sewage services in the United States); sub-sectoral carve-outs, for example for infrastructure; and specific limitations to exclude certain

regulatory measures, for example subsidies. Developing countries may also seek to impose limitations on market access commitments in the form of ceilings on prices for publicly supplied goods, minimum level of the share of profits that must be reinvested in the national infrastructure, and technology transfer and training, in order to build capacity.

Learning-by-doing will require Governments to go through an iterative regulatory process. At the early stages, it is critical to retain flexibility to reverse policies that are not working.

WTO members that want to rely on domestic services and service suppliers in a particular sector, or who want to open these sectors to foreign suppliers but retain a maximum degree of regulatory flexibility, may consider remaining unbound in that sector, — that is, not making any commitments. Learning-by-doing will require Governments to go through an iterative regulatory process. At the early stages, it is critical to retain flexibility to reverse policies that are not working, which is much easier to do in the absence of GATS commitments.

2. Professional and environmental support services

The growing scope for prevention activities increases the importance of environmental professional and support services.

The growing scope for prevention activities increases the importance of environmental professional and support services. Professional environmental services are generally not subject to market access and national treatment limitations. Since these services tend to be knowledge-intensive and provided on an integrated basis, the key issues here are access to technology and know-how, capacity building, certification and recognition of qualifications, and tied aid as a restriction on trade.

There is a range of services with an environment component, in other words, services *related to the environment*. These are multiple-use services to which the questions of definition and coverage are as relevant as they are to environmental goods. With regard to these services, market access goals should be set carefully in order to limit the danger of countries' being drawn into unintended commitments. For instance, countries that have made fully liberal commitments in the environmental sector in all modes of supply may find themselves committed, as a consequence, to liberalization in construction, engineering, legal, accounting, auditing and management consulting services.

Some developing countries see opportunities for market access in these services.[45] For example, Colombia argues for the development of a model list that would include certain services not covered by W/120, in particular implementation of environmental auditing and management systems, evaluation and mitigation of environmental impacts, and advice on the design and implementation of clean technologies.[46] The proposal is accompanied by a call for dismantling regulatory barriers to the temporary movement of natural persons.

The growing need for commitments in mode 4 will bring to the fore issues relating to recognition, qualifications, licensing procedures and international standards. It would be useful to have a compilation of existing qualification and certification requirements that affect market access for service providers from developing countries. It would also be important to facilitate the participation of developing countries in mutual recognition agreements. If the International Standard Classification of Occupation (ISCO) of the International Labour Organization (ILO) is used for establishing occupations relevant to trade in services, developed countries could make exemptions from the economic needs test for developing countries, specific to certain occupations listed under environmental sectors.

3. Classification

National and international classifications of environmental services are rather removed from market realities. A number of WTO Members have taken the view that the W/120 classification should be broadened to reflect the current structure and state of the industry.[47] Those who argue for reclassification invoke a number of drawbacks in the W/120. It establishes only partial correlation with primary media, especially in the case of water, and solid waste water management is certainly broader than sewage services, and solid waste management is broader than refuse and sanitation. The classification is limited to end-of-pipe services and does not cover pollution prevention or sustainable resource management. Also, it includes services provided in operation, but not services that make facilities operable. Finally, it does not capture services provided directly to industry.[48]

The most far-reaching proposal for updating the W/120 comes from the European Union. It is based on, though not identical to, the OECD/Eurostat definition of environmental services.[49] It addresses the entire water cycle and the protection and preservation of landscape, ecosystems and biodiversity, which are also relevant to water services.

The most controversial point in the EU proposal is the inclusion of *water for human use and wastewater*, which would explicitly bring water distribution under the GATS classification. The W/120 covers sewage treatment and *tank emptying* only; water distribution is not covered, let alone water per se.[50] CPC Prov. 18000 covers natural water in the *goods* section. In its revised versions (1.0 and 1.1), the CPC treats water services, particularly water distribution, more specifically but inconclusively. Version 1.0 includes water distribution services in production services (Division 86). Version 1.1 delinks *water distribution* (reflected under *services*) from *collection and purification* (reflected under *goods*). It is difficult to see the rationale behind these changes. In any case, these versions have no status in the WTO.

Some argue that water distribution cannot be considered an *environmental service*. Others argue that water distribution cannot be considered a service at all, but rather (the production of) a good. Yet others consider potable water to be an exhaustible natural resource. Economic, political and social considerations underlie this seemingly technical debate as the inclusion of w*ater collection, purification and distribution services* may raise questions about market access *versus* access to and control over water resources.[51]

It is important to realize that environmental services, whether they are classified under the W/120 or not, fall within the scope of GATS, subject to exemption stipulated in Article I:3 (b)

It is important to realize that environmental services, whether they are classified under the W/120 or not, fall within the scope of GATS, subject to exemption stipulated in Article I:3 (b).[52] In other words, the lack of agreement on the classification does not exclude water services from the scope of the negotiations, and the requests made by the European Union to its trading partners are very indicative in this regard. However, the explicit inclusion of new services in the classification may have an accelerating effect on the negotiations as classifying a service normally prompts new requests in that particular area.

An important feature of the W/120 is that services sectors are classified in a mutually exclusive way. In other words, services in one sector cannot be covered by another sector. This has implications for any cross-sectoral approach to the design and delivery of integrated environmental services. Attempts are being made to take account of environmental end-use services or services with an environmental component in order to secure commercially meaningful commitments.

The *core* and *cluster* approach is used in the EU proposal for a new classification of environmental services. To preserve the mutually exclusive nature of W/120, the proposal comprises only services that can be classified as purely environmental. The proposal does not include conceptual services such as design, engineering, R&D and consulting, which are classified elsewhere in GATS. Instead such services would be subject to *cluster* negotiations that would result in these services being scheduled in GATS sectors other than environment.

There are concerns about the *core* and *cluster* approach as it could result in unintended commitments. It was suggested that a *checklist* should be drawn up for *cluster* services, with Members able to consider for each service on the list what sort of commitments – if any – they wish to make. Arguably, the checklist would promote recognition of the economic linkages between different services, while preserving the voluntary, bottom-up nature of GATS commitments.

While WTO Members may resort to their preferred classification, the use of new definitions, overlaying the CPC classification, may raise adaptation problems. Classification issues are also relevant to the current GATS 2000 negotiations about future commitments.

While WTO Members may resort to their preferred classification, the use of new definitions, overlaying the CPC classification, may raise adaptation problems as the translation of existing commitments from one classification to another may imply their modification, thus reducing the legal certainty and possibly even leading to a roll-back on commitments made. Classification issues are also relevant to the current GATS 2000 negotiations about future commitments. These commitments are made on a sectoral basis, and the classification of services is of vital importance in this context.

The various types of services related to the environmental sector could be captured in a model list, which would be instrumental in facilitating the negotiations on market access, particularly in scheduling specific commitments and identifying possible trade-offs.

The use of different classifications in bilateral requests and offers has already led some WTO Members to argue for addressing classification issues on a multilateral basis and in the competent body, such as the Committee on Specific Commitments. Maintaining a focus on the classification proposal by the EC could limit the possibilities for other countries to engage in these discussions. This is particularly true of developing countries, which, by and large, do not see any market access opportunities in the sub-sectors covered by the EC proposal. It is important to promote a more inclusive approach.

As is the case of environmental goods, it would be difficult to promote convergence on the classification issue, without linking these discussions to the negotiations on market access, especially now that the offers are on the table. The work on a disaggregated classification should take fully into account developing countries' interests. The various types of services related to the environmental sector could be captured in a *model list*, which would be instrumental in facilitating the negotiations on market access, particularly in scheduling specific commitments and identifying possible trade-offs. Some ideas have already been put forward, for example in the above-mentioned proposal by Colombia. Similar proposals have been made for other, non-environmental sectors.

4. Domestic regulations

Detailed knowledge of regulations is becoming more and more important to the negotiations. In a sense, it would be fair to say that trade negotiators should know what regulators know and vice versa.

Another area that needs to be dealt with in parallel with the negotiations on market access is domestic regulations. While WTO Members have the possibility of tailoring their commitments through the bottom-up approach to define their way to market access, there is a great deal of pressure on national and local regulatory authorities, which often lack the necessary resources and capacity. Detailed knowledge of regulations is becoming more and more important to the negotiations. In a sense, it would be fair to say that trade negotiators should know what regulators know and vice versa.[53]

For example, detailed information is needed on the regulatory and administrative regimes influencing the provision of environmental services in different regions and localities and on possible future changes to these regimes. Since commercial presence and the movement of natural persons are crucial to the delivery of environmental services, this information may touch on foreign investment regulations, immigration restrictions, health and environmental requirements, property, planning and zoning laws, competition policies, particularly in relation to the regulation of utility monopolies, company laws, and intellectual property regimes.

The GATS recognizes the right to regulate and does not prevent foreign service suppliers from being subject to the prevailing regulatory requirements – or even to additional, stricter requirements, provided that they are scheduled as national treatment restrictions. It is important to make sure that trade liberalization does not impair the ability of Governments to impose performance and quality controls on environmental services and to otherwise ensure that services providers are fully qualified and carry out their tasks in an environmentally sound manner.

The existing disciplines on domestic regulation (Article VI) have a limited impact on public services. However, any future disciplines negotiated under Article VI:4 may greatly influence government regulation in this area. WTO Members should assess the ongoing negotiations on disciplines for domestic regulation in the Working Party on Domestic Regulation in the light of their regulatory requirements. According to Article VI:4 of GATS, such disciplines should ensure that certain domestic regulations, namely measures relating to licensing and qualification requirements and procedures, and technical standards, are no more trade-restrictive than is necessary to ensure the quality of the services. Depending on the scope of future disciplines and the specific design of a *necessity test* in such disciplines, certain domestic regulation such as quality standards or universal service obligations could be seen as more burdensome than necessary. This may put them under pressure from the multilateral trading system.

An important question is whether there will be an overlap between measures subject to future disciplines and measures within the scope of Articles XVI and XVII, or will the disciplines and the articles be mutually exclusive? In his recent book, Krajewski argues for a clear distinction between market access (and national treatment) on the one hand, and domestic regulations disciplines on the other, without the possibility of an overlap. Such an approach would make it clear that only measures mentioned in Article XVI need to be scheduled as market access restrictions (and nothing else). However, the author is not sure that his view will prevail.[54]

Can there be ways of tackling PPMs, other than using them as criteria in the negotiations? Since the environmental industry is essentially a technology-led response to environmental regulations, finding such ways would require looking into environmental technologies, — that is, promoting "technological equivalence" in developing countries.

E. Systemic issues

1. Technology-based approach to liberalization

The opposition to dealing with PPMs in the negotiations on EGS is understandable. After all the WTO legal order is based on national treatment, and not mutual recognition. At the same time, it is ironic that the potentially "most important agreement on trade and environment in the WTO history"[55] should shrink from the challenge. Can there be ways of tackling PPMs, other than using them as criteria in the negotiations? Since the environmental industry is essentially a technology-led response to environmental regulations, finding such ways would require looking into environmental technologies, — that is, promoting "technological equivalence" in developing countries.

There are three areas for which transfer and effective use of ESTs could be of particular importance over the next few years: addressing urban pollution, such as air- and water-borne pollution; enhancing energy and material efficiency — this includes saving devices and technologies and the use of renewable energy and materials, including biodegradable material; and complying with environmental requirements in export markets, particularly those relating to management of hazardous metals and chemicals and related traceability requirements.

There are difficulties in defining cleaner technologies and classifying those in the HS. Clean technology is a concept of relative environmental performance, which is subject to change over time. Also, cleaner production technologies tend to be sector-specific. The differences between end-of-pipe and clean technologies should not be exaggerated, however. For example, filters, often mentioned as a prime example of end-of-pipe technologies, are used in clean processes.

The problem of relative environmental performance could be overcome either by setting up a proper review mechanism or by including entire plants or technologies in the list.[56] The latter are devoid of the problems associated with multiple-use and relativism in time; That is, a recycling plant remains a recycling plant even if the technology of recycling changes substantially. Examples of entire plants that could be covered are numerous: recycling plants, plants for waste management, sulphuric acid recovery plants, plants for cogeneration of heat and power. The same approach could apply to entire technology systems, for example oil recovery systems. In many cases there appears to be a possibility of classifying entire systems under a single tariff heading. However, more work is needed in order to find the appropriate tariff headings or to create new ones as well as to address NTBs.

Many environmental problems, particularly in developing countries, do not require state-of-the-art and proprietary technology; rather, they could be addressed through developing management skills, combined with appropriate technology. Second- and third-best solutions are often an efficient as well as an effective way of overcoming environmental and resource management problems. In this regard, endogenous technology solutions are sometimes seen as providing a better match to local environmental problems and therefore merit more attention.

While trade in EGS is the most direct route for technology transfer, it is important to link it to other channels such as investment, licensing of intellectual property rights, government procurement, multilateral environment agreements (MEAs) and development cooperation.

While trade in EGS is the most direct route for technology transfer, it is important to link it to other channels such as investment, licensing of intellectual property rights, government procurement, multilateral environment agreements (MEAs) and development cooperation. The disjunction between the provisions for technology transfer in some MEAs and the actual transfer of ESTs is indicative of the limitations of an intergovernmental approach to this problem. The Working Group on Trade and Technology Transfer should be able to make a substantive contribution in this regard. The role of instruments such as the Multilateral Fund under the Montreal Protocol (MP) should also be noted.

2. Public services and market access

As there is a strong public function to the provision of certain environmental services, for example in water supply and waste management, many Governments have established *monopoly or exclusive supplier rights* in respect of public utilities. Whether or not monopolies persist, or are replaced by dominant suppliers, is often due to the nature of the technology. Advances in technology prompt from time to time changes in the

allocation of property rights increased marketability of certain public services, and make possible arm's-length regulation instead of State ownership. However, the lack of GATS commitments in some of these areas suggests that government may be playing a role in the persistence of monopolies beyond areas where it is a technological necessity.

There is a seeming inconsistency within the compromise of allowing exclusive rights while at the same time subjecting them to the obligation of non-discrimination. However, it could be the access to the bidding process where non-discrimination plays a role. Also, exclusive rights might be local, or restricted to a certain activity, and several suppliers holding exclusive rights could coexist on the territory of one Member. The legal complexities following from this compromise lead some experts to argue that public services are located inbetween the traditional public law and private law spheres and can be conceptualized as a third sector.

For example, Article VIII provides disciplines on monopolies and exclusive service suppliers, but it is not clear to what extent Article VIII is relevant to natural monopolies such as water services. Article XIII of the GATS exempts government purchase of services for its own use from the most favoured nation (MFN) obligation as well as from the market access and national treatment disciplines (GATS Article XIII). However, the obligations under Article VIII relating to procurement or subcontracting of services by private firms, with an exclusive supplier right granted by Governments, are not clear.

The same provision that exempts government procurement from the main disciplines of GATS mandates negotiations on government procurement in services, which may eventually lead to commitments to open up some government purchases to foreign service suppliers. The provisions of the Agreement on Government Procurement[57] may also affect government procurement of environmental services. Most of the WTO Members that have signed the Agreement have included the W/120 classification of environmental services within the scope of their GATS commitments.

As disciplines on subsidies are yet to be developed under GATS, more sector-specific analysis of subsidies and their effects – positive or negative – would be helpful to trade negotiators. Environmental services could be an important area for such analysis.

Discussions in the Working Party on GATS Rules and the Committee on Government Procurement[58] have touched on issues relating to various contractual arrangements between a public authority and a private entity, for example BOTs, management contracts or concessions. Some argue that management contracts, and even concessions, come very close to government procurement, and that BOT arrangements are actually a combination of government procurement and concession. The widespread confusion in the use of these terms obscures the issue even more. It has been questioned whether the right to participate in the bidding process amounts to granting market access.

As disciplines on subsidies are yet to be developed under GATS, more sector-specific analysis of subsidies and their effects – positive or negative – would be helpful to trade negotiators.[59] Environmental services could be an important area for such analysis.

For the moment the WTO Members are negotiating under the mandate of Article X, but the issues of desirability and feasibility have not yet been resolved. The exchange of information called for in Article XV has not produced the expected results. Only four Members have responded to the questionnaire that was circulated.

Even s*ervices supplied in the exercise of governmental authority* (GATS Article I:3(b)) have not escaped ambiguity. The definition of government services in Article I:3(c) underlines the *non-commercial* basis and *non-competitive* supply of a service. However, there are differing interpretations of these conditions. According to some, in order for the exclusion to apply, the service must be supplied neither on a commercial basis nor in

competition, and if both these conditions are met then the exclusion applies ("cumulative test"). For others, it is sufficient that one of the conditions be met for the exclusion to apply ("disjunctive test").

There is a need to determine what *commercial* means in the context of Article I:3(c). A wide interpretation of *commercial* means *buying and selling*, a narrow, *profit seeking*. The implications are important; even though many public services are supplied on a non-profit basis, there is a trend toward commercialization and commoditization of certain services.

The regulatory regime of a public service may exclude it from the scope of the Agreement, and deregulation can bring it within the GATS coverage. In other words, liberalization and privatization of public services have a direct effect on the potential sectoral scope of GATS.

The meaning of *competition* also needs to be clarified. As noted above, competition in environmental infrastructure services is mostly *for* rather than *in* markets — that is, *before* the supplier enters a particular market. What about *after* the entry? If there are public and private suppliers in the market, does this mean that the service is supplied on a competitive basis to the extent that both providers target the same consumers?

In his analysis of the impact of the General Agreement on Tariffs and Trade (GATT) on public services and the ways to manage this impact, Krajewski suggests that certain WTO Members feel that specific limitations are necessary because the exemption stipulated in Article 1:3(b) is not sufficient, and he indicates three options available to WTO Members wishing to exclude public services from the scope of GATS.[60]

First, the regulatory regime of a public service may exclude it from the scope of the Agreement, and deregulation can bring it within the GATS coverage. In other words, liberalization and privatization of public services have a direct effect on the potential sectoral scope of GATS.

Second, WTO members can schedule limitations to their market access and national treatment commitments or not make any commitments in sectors considered public services. However, the general GATS disciplines would still apply to these services. Moreover, these limitations or non-commitments may come under pressure in subsequent negotiating rounds.

Tariff protection is being dismantled, and scope for other instruments to open up markets in environmental goods seems to be minimal under a strict application of national treatment. If environmental goods were to receive special treatment, the negotiations would be of a complex nature but limited potential impact.

Third, WTO members may take legislative steps to narrow the scope of GATS. Since renegotiating agreements is a difficult proposition, a practical alternative is an authoritative interpretation of the scope of GATS according to Article IX:2 of the Marrakesh Agreement Establishing the WTO.

F. Conclusions

Tariff protection is being dismantled, and scope for other instruments to open up markets in environmental goods seems to be minimal under a strict application of national treatment. If environmental goods were to receive special treatment, the negotiations would be of a complex nature but limited potential impact. The early sectoral liberalization at APEC may well become a late sectoral liberalization in the WTO, with Members gradually coming to the realization that, while nothing much can be done through the negotiations, a great deal can be done through trade promotion and facilitation measures and technical assistance.

On the theoretical front, there are attempts to breathe life into the WTO negotiations on environmental goods through finding "cross-overs" with areas where significant barriers to exports from developing countries persist. Agriculture is sometimes mentioned

as a useful starting point.[61] One category of sustainable agriculture, with well-defined international standards, is organic foods.[62] Textiles may be another area, especially products made using natural chemicals and dyes. However, given the complexity of negotiations in these other areas, this approach may create more problems than solutions.

A more practical alternative is to trade off EGS with other products in the context of the *single undertaking*, and it is becoming increasingly clear that this kind of bargaining is indeed taking place. This is fair enough, considering that the inclusion of paragraph 31 (iii) in the Declaration was prompted by negotiating dynamics that had to do with things other than trade and the environment, and the main *demandeurs* in the environmental area lobbied hard to ensure that the current trade negotiations would be concluded on the basis of "everything is agreed, or nothing is agreed".

For some EPPs, including those based on PPM-related criteria, developing countries could seek to improve market access through means other than the negotiations in the NGMA. Concerns related to standards, certification and conformity assessment procedures could be addressed under the Agreement on Technical Barriers to Trade, which covers, for example, organic agriculture. The CTESS could also play a role here. Some countries argue for the inclusion of agricultural EPPs within the scope of the negotiations, which would bring the Committee on Agriculture into the picture. Developing countries could find it useful to explore creating markets in EPPs outside the WTO, through trade facilitation and promotion measures.[63]

The checkmate situation in the NGMA with respect to environmental goods is in stark contrast to the high level of activity in the negotiations on environmental services. The basic problem of course, at least from a theoretical perspective, is the compartmentalized negotiations in the WTO, with the negotiations on environmental goods being somewhat of a misnomer.

The checkmate situation in the NGMA with respect to environmental goods is in stark contrast to the high level of activity in the negotiations on environmental services. The basic problem of course, at least from a theoretical perspective, is the compartmentalized negotiations in the WTO, with the negotiations on environmental goods being somewhat of a misnomer. It would therefore seem that, rather than looking for "cross-overs" in the negotiations under GATT, WTO Members should take a broader perspective on the negotiations on environmental goods *and* environmental services, and explore ways to combine and interlace the two areas. As a first step, it would be important for trade negotiators to monitor developments on both fronts. For instance, a checklist may be created for environmental goods that are integral to the provision of environmental services in those sectors where the number and extent of requests are significant.

Some procedures and methods developed for services may eventually bring about more productive approaches to liberalizing trade in environmental goods.

Some procedures and methods developed for services may eventually bring about more productive approaches to liberalizing trade in environmental goods. "GATS-like" approaches to liberalizing trade in environmental goods would include finding ways to promote technology transfer, using the purchasing power of the Government, affording preferential treatment to environmental goods supplied for priority investment projects, and aligning standards with countries' own environmental and developmental objectives.

GATT rules do not prevent an import buyer from demanding that exporters bundle together goods and services. Proprietary technology may also be part of what a Government is including in its *terms of purchase and sale*. GATT Article III:8 allows Governments to put pressure on foreign suppliers to build facilities or transfer technology as offsets, and technology transfer conditions may be part of the deal.[64]

There is a clear relationship between technological and regulatory capacity. Developing countries are under growing pressure to follow the developed countries' lead in environmental regulations. On the other hand, standard-setting activity promotes the

homogenization of products, processes and environmental management practices, and imposes new requirements on developing countries, particularly their export sector. Developing countries' markets may also be affected by environmental regulations adopted as a result of technical assistance, which favours the donor country's suppliers. The role of export credit agencies in the delivery of environmental goods and services also needs further assessment.

Public services and private activities cut through the various areas of environmental activities, which are partly public and partly private. And as in any other area where there is public interest to tackle, the environmental area cuts across almost every field of WTO law. This suggests an alternative approach to the negotiations: to reduce the matter in its vast complexity and redefine the subject of the negotiations in terms of problem areas[65]. Water and sanitation may be one such area, and the negotiations would then have to consider goods and services relevant to this area. Such an approach would obviate the need to define environmental goods and services in a more theoretical manner. Other possible areas are air pollution and the loss of biodiversity, or any other area where developing countries may have a strong interest. A negotiating package might include two or three such areas to provide WTO Members with a mandate that is politically balanced.

An alternative approach to the negotiations is to reduce the matter in its vast complexity and redefine the subject of the negotiations in terms of problem areas.

For instance, if WTO Members were to choose water and sanitation, a number of issues would have to be tackled. First, reduction or elimination of tariffs on relevant goods would have to be considered, as was the case during the Uruguay Round for pharmaceutical, medical and chemical equipment. If (some) Members were found to operate excessive standards, there would have to be negotiations on standards. With respect to international property rights (IPRs), Articles 66:2 and 67 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) could be implemented, with developed WTO Members providing incentives to technology transfer. Promoting technology transfer, in practical terms, might raise the question of whether there should be a subsidy programme, which would then lead to negotiations under the Agreement on Subsidies and Countervailing Measures. For instance, countries may support, specifically for domestic water and sanitation, the reintroduction of non-actionable subsidies, which is currently being discussed, perhaps including an exemption for environmental services. Balancing public services with private input would require looking into issues relating to government procurement and trade related investment measures (TRIMs).

Such an approach to dealing with environmental goods and services would allow for tailor-made solutions where countries may define a mix of public services and private input, always with a view to improving access to sanitation services, and under the regulatory conditions that they can impose or even negotiate under GATS Article VI. It may eventually lead to a sectoral agreement on water and sanitation, or it may stay at the level of coordination between different negotiating bodies and agendas. In any case, the CTESS would have a unique role to play in terms of communicating these various agendas to other negotiating bodies.

It is a task for the future to develop a comprehensive negotiating approach applicable to both goods and services for sector-specific agreements in the various fields of exclusive rights. The most promising avenue, it would seem, is exploring the negotiating approaches enshrined in GATS. To an extent, this may also be true of environmental goods, although such approaches are currently lacking.

There will remain problems that extend beyond the WTO's reach. While WTO Members have flexibility to protect basic environmental services in the GATS positive list

While WTO Members have flexibility to protect basic environmental services in the GATS positive list formula, in reality developing countries may be pushed into opening up whether they like it or not.

formula, in reality developing countries may be pushed into opening up whether they like it or not. Forced liberalization may come in the context of the *single undertaking* as the negotiations are wide-ranging and offer many entry points for those countries seeking to exert pressure. Or it may come from completely outside the WTO process.

Some developed country Members may be exerting pressure in the regional negotiations for liberalization commitments that will make resistance in the GATS context meaningless. A number of regional integration agreements are being drafted, with a negative list on services.[66] Various models are being built, which sometimes lead to agreements on mutual recognition, for example in professional services, and chapters on investment, which are also based on a negative list approach. Most of these regional agreements are essentially standstill exercises. In other words, Governments do not make changes to their domestic regulations because of the negotiations. However, they do put members of these agreements on one track and create a ratcheting effect.

Pressure may also come through demands from multilateral financial institutions such as the World Bank, which may choose to condition future lending for environmental infrastructure projects on liberalization to allow for private investment flows. In 2002, private water companies operated in at least 56 countries and two territories, working closely with the World Bank and other international financial institutions and lobbying aggressively for the privatization of water in large cities.

In all of these scenarios the key issue is one of power imbalance as well as the lack of what is referred to in the 2003 UNCTAD *Trade and Development Report* as *positive coherence*. Promoting positive coherence will require finding new modalities for, and new ways of channelling institutionally the problems arising from, the negotiations.

This article draws on the written work and presentations by Thomas Cottier, World Trade Institute; Frederick Abbott, Chicago-Kent College of Law; Petros Mavroidis, Université de Neuchâtel; Markus Krajewski, King's College London; Aaditya Mattoo, World Bank; Dale Andrew, OECD secretariat; and Grant Ferrier, Environmental Business International. It benefited greatly from comments and views generously shared with the author by Alejandro Jara, Ambassador of Chile to the WTO, Scott Vaughan, Organization of American States; Manoj Joshi, Ministry of Commerce of India; Felipe Hees, Mission of Brazil to the WTO, Ronald Steenblik, OECD secretariat; Ulrike Hauer, European Commission; Mireille Cossy, WTO secretariat, as well as by his UNCTAD secretariat colleagues - Luis Abugattas, Mina Mashayekhi and Ulrich Hoffmann.

Notes

1 Doha Ministerial Declaration, paragraph 31 (iii).

2 "With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on: (iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services". Doha Ministerial Declaration, paragraph 31.

3 Guidelines and Procedures for the Negotiations adopted by the Council for Trade in Services on 28 March 2001 form the basis for continuing the negotiations, with a view to achieving the objectives of the General Agreement on Trade in Services, as stipulated in the Preamble, Article IV and Article XIX of that Agreement.

[4] Dale Andrew, Modernizing the List of Environmental Services: OECD Proposals in Energy and Environmental Services: Negotiating Objectives and Development Policies, UNCTAD, 2003.

[5] The most recent contributions to this debate by Dale Andrew of the OECD, Grant Ferrier of the EBI and Scott Vaughan of Carnegie Endowment are of particular interest.

[6] See Elements for Negotiating Guidelines and Procedures. Communication from Argentina et al., Council for Trade in Services, Special Session. S/CSS/W/13, 24 November 2000.

[7] US OTA (1994), quoted from Environmental Goods and Services: An Assessment of the Environmental, Economic and Development Benefits of Further Global Trade Liberalisation, COM/TD/ENV(2000)86/FINAL, OECD, October 2000.

[8] The Global Environmental Goods and Services Industry, OECD, 1998.

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

[10] Environmental Goods and Services: The Benefits of further Global Trade Liberalisation, OECD, 2001, pp. 11-13.

[11] However, there are methodological problems with identification and measurement since existing data cannot easily be compared across these groups.

[12] The two categories are not mutually exclusive as some EPPs may be incidental to the delivery of environmental services.

[13] For a number of EPPs, scale is a factor. They are environmentally friendly only when produced on a relatively small scale.

[14] Less environmental harm is generally established according to the following criteria: (a) use of natural resources and energy; (b) amount and hazardousness of waste generated by the product along its life cycle; (c) impact on human and animal health; and (d) preservation of the environment. For more information on the concept and criteria of EPPs, see Environmental Preferable Products (EPPs) as a Trade Opportunity for Developing Countries, Report by UNCTAD Secretariat, UNCTAD/COM/70, Geneva, December 1995 [UNCTAD (1995)].

[15] Production, processing, consumption or disposal.

[16] See [UNCTAD (1995)], pp. 5-7.

[17] These categories are not mutually exclusive, for example jute is superior to polyethylene and organic at the same time.

[18] Ecosystem services can be traded through direct and local exchange, for example a national park with admission fees, or indirect exchange via intermediaries' trading certificates, for example a CO_2 certificate.

[19] Actually the estimates vary from US$ 350 billion to US$ 550 billion, depending on the definition used. The two main sources are the Environmental Business International (EBI) and the Joint Environmental Markets Unit (JEMU). The significant differences in estimates have to do with the fact that the EBI statistics include certain sectors — water utilities, water treatment services and resources recovery — that do not correlate clearly with the JEMU statistics.

[20] Environmental Benefits of Removing Trade Restrictions and Distortions. Note by the Secretariat, Addendum, Committee on Trade and Environment. WT/CTE/W/67/Add.1, 13 March 1998; Implications of WTO Agreements for International Trade in Environmental Industries, ITC, 1999.

[21] The leading exporter in the European Union is Germany (APC, water/wastewater, instrumentation), which accounts for 17 per cent of world trade and is second only to the United States; other countries with strong export positions are France (water/wastewater, APC), United Kingdom (water/wastewater, monitoring, APC), Denmark (water and waste) and Italy (waste, APC).

[22] Extended information is available at http://www.oecd.org/pdf/M00037000/M00037633.pdf

[23] Environmental Issues Raised in the Services Negotiations, statement by Mr. A. Hamid Mamdouh1 at the Regular Session of the Committee on Trade and Environment of 29-30 April 2003, WT/CTE/GEN/11, April 2003.

[24] See Factors affecting Transfer of Environmentally Sound Technology, Note by the WTO Secretariat, WT/CTE/W/22, 1996.

[25] Interestingly, there is no consensus in APEC on the definition and categorization of the environmental industry. The definitions and categorizations employed by member economies differ greatly.

[26] Liberalizing Trade in Environmental Goods: Some Practical Considerations, Document No. COM/ENV/TD(2003)34/FINAL, OECD (2003), Paris [OECD, 2003].

[27] The proposed changes will be finalized by mid-2004 and a revised system will take effect in January 2007.

[28] Filters to purify industrial emissions into the air and water, sewage treatment equipment, potable water treatment equipment, recycling equipment etc.

[29] This problem is not specific to environmental goods, of course.

[30] World Trade Organization, Environmental Database for 2001, WT/CTE/EDB/1, 31 May 2002. According to the WTO Secretariat, over the last decade, between 10 and 11 per cent of all TBT notifications referred to some kind of environmental consideration. (In 1998 and 2000, the number of notifications were slightly above 15 per cent). This ranks among the single-most important categories of all TBT notifications.

[31] The terms used by the WTO Secretariat in compiling the Environmental Database include carbon, clean, climate, conservation, eco-label, greenhouse, pollution, hazardous, indigenous, organic, modified organisms, packaging, toxic materials, soil erosion, wildlife and wood.

[32] [OECD (2003)].

[33] Developing Countries' Trade in Environmental Goods, Conference Room Paper for an Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, UNCTAD, 9-11 July 2003, (TD/B/COM.1/EM.21/CRP.1) [UNCTAD (2003)].

[34] [UNCTAD (2003)].

[35] Japan has circulated a list of environmental goods, which is based on the OECD list, and includes energy-efficient products such as microwave ovens, refrigerators and video projectors, as well as other less-polluting and more resource-efficient goods.

[36] Qatar made a proposal for the inclusion of energy-efficient technologies such as combined-cycle natural-gas-fired generation systems and advanced gas-turbine systems. In a follow-up paper Qatar links the proposal with the objectives of multilateral environmental agreements, in particular the UNFCCC and its Kyoto Protocol, and claims that non-tariff barriers are serious impediments to global trade in these goods.

[37] There are fears that some chemicals, for example ammonia, can produce negative environmental effects in other sectors.

[38] On this issue, see the following article in this Review.

[39] Situations where a service provider is pre-selected as part of a development assistance package.

[40] Environmental Goods and Services in Trade and Sustainable Development, note by the UNCTAD secretariat. TD/B/COM.1/EM.21/2, 5 May 2003.

[41] Both the CPC Prov. and the MTN.GNS/W/120 (hereinafter referred to as W/120) were established in 1991, the former by the Statistical Office of the United Nations, and the latter by the GATT Secretariat. The W/120 is in fact a simplified version of the CPC.

[42] This categorization is based on the view expressed by Luis Abugattas, UNCTAD, at the Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, Geneva, 9-11 July.

[43] Strictly speaking, GATS Article XIX sets out the principle of "progressive liberalisation of trade in services", but not towards deregulation as such.

[44] Free Trade in Services Opening Dynamic New Markets, Supporting Good Jobs, Trade Facts, USTR, 31 March 2003.

[45] For more information in this area, see the following article in this Review.

[46] See Environmental Services, Communication from Colombia, Council for Trade in Services - Special Session, S/CSS/W/121, 27 November 2001.

[47] See Environmental Services, Communication from the United States, Council for Trade in Services – Special Session, S/CSS/W/25, 18 December 2000; Classification Issues in the Environment

Sector, Communication from the European Communities and their Member States, S/CSC/W/25, 28 September 1999.

48 [OECD (2001)].

49 The OECD/Eurostat definition goes beyond the classification proposed by the European Union for negotiation purposes.

50 CPC 9401-Sewage Services-covers sewage removal, treatment and disposal services. Equipment used are waste pipes, sewers or drains, cesspools or septic tanks, and processes utilized include dilution, screening and filtering, sedimentation, and chemical precipitation.

51 It should be noted that GATS does not cover ownership of natural resources.

52 "…services supplied in the exercise of governmental authority".

53 The following article examines in more detail the kind of information trade negotiators need from regulators and suppliers of environmental services, on the basis of experience of Central American and Caribbean countries.

54 Markus Krajewski, National Regulation and Trade Liberalization in Services: The Legal Impact of the General Agreement on Trade in Services (GATS) on National Regulatory Autonomy, Kluwer Law International, 2003.

55 See Scott Vaughan, Trade Preferences and Environmental Goods, in Trade, Equity and Development, Issue 5, 2003, Carnegie Endowment for International Peace.

56 This approach is being advocated for example by Ilkka Saarinen, Ministry of Foreign Affairs, Finland. Report of the Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, TD/B/COM.1/59 and TD/B/COM.1/EM.21/3, 27 August 2003.

57 The Agreement applies to both goods and services. Its current membership is essentially limited to developed countries.

58 The Committee oversees the work of the plurilateral Agreement on Government Procurement.

59 At present the GATS contains no specific rules. However, a country providing a subsidy to national but not to foreign suppliers of a service committed in its schedule must have entered a national treatment limitation to that effect. Whatever disciplines are developed will not apply to governmental services, because these are outside the scope of the GATS.

60 See Markus Krajewski, Public Services and Trade Liberalization: Mapping the Legal Framework, *Journal of International Economic Law* 6(2), 341-367, Oxford University Press 2003. Some examples given by Krajewski are of interest. Bulgaria uses the term "services supplied under governmental authority" in its schedule and states that "commitments in environmental services do not include services supplied in the exercise of governmental authority". A footnote explains that these services are "regulatory, administrative and control services by government and municipal bodies related to environmental issues". Two members use the term "public services" in their schedules. The Dominican Republic listed prior registration of foreign investment as a horizontal limitation, but stated that registration is "totally prohibited in public services, such as drinking water, sewage…".

61 See Scott Vaughan, op. cit.

62 As the NGMA does not cover agricultural products, trade liberalization of agricultural EPPs could perhaps be discussed in the CTESS.

63 The Plan of Implementation adopted at the World Summit on Sustainable Development (WSSD) calls on countries to "support voluntary, WTO compatible, market-based initiatives for the creation and expansion of domestic and international markets for environmentally friendly goods and services, including organic products, which maximize environmental and developmental benefits", paragraph 93 (b).

64 *State Trading in the Twenty-First Century*, edited by Thomas Cottier and Petros C. Mavrodis, World Trade Forum, Volume I, University of Michigan Press, 2001.

65 This proposal was argued by Thomas Cottier, Director, World Trade Institute, at the Expert Meeting on Environmental Goods and Services, UNCTAD, Geneva, 9-11 July. Report of the Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development, TD/B/COM.1/59 and TD/B/COM.1/EM.21/3, 27 August 2003.

[66] The recently concluded Central American Free Trade Agreement is very indicative in this regard. See the Post script of the following article.

ARTICLE 3:
Environmental goods and services: Challenges and opportunities for Central American and Caribbean countries

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A. Background

UNCTAD is providing assistance to five Central American countries (Costa Rica, Guatemala, Honduras, Nicaragua and Panama)[1] and two Spanish-speaking Caribbean countries (Cuba and the Dominican Republic) with a view to enhancing their ability to participate effectively in the World Trade Organization (WTO) negotiations on trade and environment and address key trade and sustainable development linkages. These countries have identified the examination of implications of trade liberalization and strengthening of domestic capacities in environmental goods and services (EGS) as a priority issue to be addressed under the project "Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues".[2]

Environmental goods and services play a key role in the sustainable development process

There is wide recognition of the important role of EGS in promoting the sustainable development process. This is reflected in paragraph 31(iii) of the Doha Ministerial Declaration (DMD), which calls for negotiations, with a view to enhancing the mutual supportiveness of trade and environment, on "the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services". However, a number of important issues must be addressed to ensure that developing countries in Central America and the Caribbean can participate in negotiations with prospects for the best possible outcome vis-à-vis their trade and development objectives. Among the issues are:

- What are environmental goods and services and how are they defined in the context of the WTO negotiations?
- What are the benefits (and risks) of trade liberalization in EGS for Central American and Caribbean countries?
- Does the region have export potential in certain segments of the EGS industry?
- What classification of EGS best suits the trade and sustainable development interests of the region?
- What are the implications of trade liberalization for the development of domestic EGS sectors?
- What should be the negotiating objectives of countries in the region?
- What conditions should be attached to specific commitments, if any?

- What are the capacity-building needs of countries in the region relating to EGS, in particular in the context of their participation in the WTO negotiations?

A major concern for countries in the region is how to overcome the lack of access to critical information about EGS, their lack of a common understanding of key concepts and classifications, their institutional weaknesses and the poor coordination that exists at the national level relative to negotiations involving EGS — all of which make it difficult to effectively prepare for, and participate in, negotiations. The project will help to eliminate these constraints by helping countries in the region to (a) fill in existing information and research gaps; (b) strengthen policy coordination; and (c) explore issues of regional interest. The project also promotes national studies, national and regional policy dialogues, and inputs from Central American and Caribbean countries to WTO discussions relative to EGS.[3]

National studies feature prominently in the project, Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues

National studies feature prominently in the project. They provide in-depth clarification of both technical and substantial issues relative to EGS and WTO negotiations in this area. They include a focus on (a) the structure and characteristics of the environmental services sector in given countries; (b) relevant national legislation; (c) preliminary assessments of present and potential EGS markets; and (d) possible approaches, from a national perspective, to WTO negotiations on EGS trade liberalization.[4] To date, Cuba, the Dominican Republic, Honduras, Nicaragua and Panama have prepared (preliminary or final) versions of national studies, funded largely by the Governments of the countries concerned (see annex I). Further analysis is being carried out with the help of research institutes or consultants recruited under the project (see annex II). This includes a study on Guatemala.[5]

Thus far, several meetings have already been organized in the region with a view to improving the level of understanding of EGS issues and related negotiations. The secretariats of UNCTAD and the Economic Commission for Latin America and the Caribbean (ECLAC) jointly organized a workshop on EGS in Havana, Cuba, in March 2003.[6] National workshops were also held in Nicaragua and Panama in June 2003,[7] and a national workshop for the Dominican Republic is scheduled to take place in early 2004. The regional meeting in Cuba gave rise to constructive discussions regarding the preliminary results of the national studies, and allowed the exchange of national experiences relating thereto. Participants also explored issues of regional interest and benefited from the opportunity to plan future activities under the auspices of the project. The national workshops in Nicaragua and Panama brought together officials from trade, environment and other ministries, suppliers of environmental services, and other stakeholders for similar discussions and activities. These workshops allowed participants to clarify concepts and engage in constructive coordination at the national level. This was the first time that government officials from relevant ministries and government agencies had come together for a structured and comprehensive discussion of EGS liberalization. The regional and national meetings were particularly beneficial because they allowed interaction between capital-based policy makers and Geneva-based trade negotiators. This interaction has encouraged the sharing and dissemination of information with capital-based policy makers, as well as clarification of the kind of information and analysis that trade negotiators expect and require from project activities.

National and regional workshops help to clarify concepts and to promote policy coordination

Several experts presented their national experiences on the basis of activities carried out under the project in a recent UNCTAD Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development held in Geneva, from 9 to 11 July 2003, back to back with the Special Session of the WTO Committee on Trade and Environment (CTE). The agenda of the meeting featured presentations by

several regional experts who relayed their national experiences on the basis of activities carried out under the project. It provided an opportunity to bring the national experiences of Central American and Caribbean countries to the attention of the international community, thereby contributing to the international debate on EGS. The discussions also provided useful insights for future activities under the project.

The activities carried out thus far have provided valuable lessons learned that are reflected in this article. Section II summarizes discussions concerning definitions and classifications. Section III analyses progress made in national studies on the environmental services sector. Section IV examines how countries in the region have been approaching WTO negotiations on liberalisation in environmental services. Section V describes the implications of negotiations on environmental goods for countries in the region. Section VI discusses the possible orientation for further capacity-building work on EGS to help countries in the region to participate as effectively as possible in the WTO negotiations. The conclusions are contained in section VII. Annex 1 analyses the Central American Free Trade Agreement (CAFTA).

B. Definitions and classifications

1. Concepts

The results of the meetings and the conclusions of the country studies offered important lessons learned regarding the need to distinguish between the different concepts relative to environmental services and environmental goods. For example, environmental services have been defined both as services provided by ecosystems[8] (e.g. carbon sequestration) and as human activities (e.g. wastewater management) to address particular environmental problems. While ecosystem services themselves are not currently being negotiated in the WTO, this paper will show that a growing number of projects dealing with certain ecosystem services, for example in the area of carbon sequestration and the Clean Development Mechanism (CDM), are an important driver of demand for environment-related consultancy services.

Different concepts of environmental services and environmental goods are used in the region

Trade negotiators are familiar with the concept of environmental services currently used in the WTO. However, many environment and other ministries in Central American countries are more familiar with the concept of ecosystem services, owing to their rich biodiversity endowments. These countries possess great potential for the commercial exploitation of environmental services provided by their ecosystems to support sustainable development objectives. Costa Rica and Nicaragua have already generated significant revenue from this kind of activity. In most cases, however, the economic value of such services has still not yet been well established. Many studies and projects are therefore carried out in the region on valuation techniques and the design of instruments to enable the commercialization of such services. In the context of the formulation and implementation of these projects, many environment ministries and other relevant institutions in the region have formally adopted a definition of "environmental services". The growing awareness of the potential economic benefits of ecosystem services (formally labelled "environmental services") has contributed greatly to the popularization of this concept in the region.

In the **Dominican Republic**, for example, the Commission on Environmental Services was created in 2001 within the Ministry of Environment and Natural Resources (*Secretaría de Estado de Medio Ambiente y Recursos Naturales*, SEMARN), as mandated by Law 64-00 on Environment and Natural Resources. The law recognizes the

concept of environmental services and the need to estimate their value and to incorporate them into the National Accounts System. **Honduras** is creating a Unit for Environmental Goods and Services, within the Ministry of Natural Resources, which will aim to strengthen national capacities to address EGS issues, and which will be supported by a National Commission on Environmental Goods and Services. The objective is to provide a forum for discussion and exchange of information at the national level. This Unit is expected to focus on ecosystem services[9].

Several countries have created special entities to deal with environmental services provided by eco-systems

In **Nicaragua**, the Ministry of Environment and Natural Resources (MARENA) has an Office of Environmental Services that is in charge of identifying the potential that environmental goods and services of the national ecosystem have to offer, and their potential to be used commercially at the national and international levels. At the Central Bank level, satellite accounts have been included in the system of national accounts. These are currently in the process of being completed on the basis of the definition of indicators that allow for an assessment of the economic value of the country's natural resources. The Office of Climate Change is located within MARENA and is in charge of the certification of payments for carbon sequestration as an environmental service.

A working group has also been created in **Cuba**, but its focus is more on environmental services currently being negotiated in the WTO (see below).

It has been noted that the classification of (trade in) "environmental" services in the WTO context is based on the concept of human activities, such as sewage or wastewater management, and that it would be more appropriate to describe them as "environmental management" services.[10]

Beneficiary countries participating in the project have agreed to initially focus project activities on EGS sectors covered by the WTO negotiations. Thus, work on services will focus on environmental services based on classifications used in requests and offers in the negotiations.[11]

Similarly, there is a need to carefully focus project activities on "environmental goods". Many experts in the region understand these to include a rather broad range of products derived from the sustainable use of biodiversity.[12] Countries in the region could use the negotiations to seek to remove obstacles to certain categories of such products, for example in the area of certification. However, certain categories of environmentally preferable products (EPPs) could be problematic in the context of the WTO negotiations concerning paragraph 31(iii). These issues are examined in section IV.

2. Classification of environmental services in the WTO

The classification of environmental services in the WTO context has been addressed at length in project activities, and some attention has been drawn to the fact that proposals on environmental services submitted thus far to the Council on Trade in Services (CTS) generally reflect the view that the current classification contained in the Services Sectoral Classification List (W/120)[13] does not properly reflect the manner in which industry currently operates, and that it needs to be modernized.[14]

Different classifications of environmental services are used in bilateral requests in the WTO negotiations

The European Communities, Switzerland and others have proposed a new classification for "core" environmental services that would better reflect current trade and sector-specific realities.[15] The European Union,[16] for example, is proposing a reclassification of "core" environmental services, which includes a larger number (seven) of environmen-

tal sub-sectors (see table 1).[17] In addition, attempts have been made to take account of environmental "end-use" services or services with an "environmental component" in order to secure commercially meaningful commitments.

Table 1
EU proposal for the classification of environmental services

W/120		Proposal	
A	Sewage services (CPC 9401)	A	Water for human use and wastewater management (CPC 9401)
B	Refuse disposal (CPC 9402)	B	Solid/hazardous waste management (CPC 9402)
C	Sanitation and similar services (CPC 9403)		
D	Other	C	Protection of ambient air and climate
		D	Remediation and clean-up of soil and water
		E	Noise and vibration abatement (CPC 9405)
		F	Protection of biodiversity and landscape (CPC 9409)
		G	Other environmental and ancillary services (CPC 9403)

Independent of the determination of which classification would be used in the negotiations, there is a need for classification systems that are well understood and agreed upon by environmental authorities and services providers. It is noteworthy that several countries have already developed their own classification. In **Cuba**, for example, the national classification of environmental services is based on the life cycle concept, and takes into account the fact that environmental services are closely related to consulting services that appear under Central Product Classification (CPC) division 86 (professional services).[18]

In **Honduras** and **Nicaragua**, basic environmental services such as sewage, potable water, hazardous waste treatment and others are included under one single sector — "water and sanitation" — with a common set of policies, institutions and legal framework, which attests to a lack of specificity in the classification system.

It would be preferable to resolve classification issues multilaterally rather than through the request-and-offer process

Close cooperation between trade and environmental authorities is a prerequisite to developing structured classification systems that provide concise information. A balance has to be found between the need for a modernized classification of environmental services as a means to allow for commercially relevant commitments on the one hand and developing countries' concerns about the implications of reclassification exercises and a broadening of the environmental services sector under the General Agreement on Trade in Services (GATS) on the other. In this regard, it is widely agreed that classification issues should be resolved multilaterally rather than through the request-and-offer process.

C. National studies on environmental services

Country studies have thus far largely focused on sectors for which a certain amount for information was available, notably water and wastewater services, waste management, recycling and professional services.[19] In the subsequent phases of implementation of the project, these sectors will be further analysed and the sector coverage will gradually increase to include other sub-sectors (including, where possible, those for which information is currently very scarce).

Environmental services differ greatly in market structure and behaviour, regulatory frameworks and technological development. It is therefore useful to distinguish between (a) environmental infrastructure services which relate mainly to water, sanitation and waste management; (b) non-infrastructure, commercial environmental services, comprising most of the activities in CPC Division 94,[20] for example site clean-up and remediation, cleaning of exhaust gases, noise abatement, nature and landscape protection; and (c) related services with environmental end-use as classified under different divisions in the CPC, for example construction or engineering services. This section focuses primarily on (a) environmental infrastructure services and (b) professional environmental services.

1. Environmental infrastructure services

Private sector participation, including through FDI, can be beneficial but adequate regulatory frameworks need to be developed

Most studies highlight the need to improve the efficiency and quality of basic, infrastructure-related environmental services such as water and sanitation. In most cases, however, this requires large investments and access to technology and management practices. In general, countries in the region acknowledge the potential benefits of private sector participation, including through foreign direct investment (FDI), but they stress the need to develop adequate regulatory frameworks to ensure that national environmental, social and developmental objectives are respected. In the light of these concerns, some studies note that it would be useful to examine the experiences of developing countries that have already liberalized certain environmental services sectors for guidance on the best manner to proceed. There are also concerns about the social implications of the eventual privatization and liberalization of basic environmental services, such as potable water, and about access by the poor to such services at affordable prices. Experience has shown that Central American and Caribbean countries lack the resources and capacity to subsidize basic environmental services once they have been privatized.

In **Cuba**, basic environmental services such as drinking water and wastewater management, hazardous waste management and recycling are well developed. Around 95 per cent of the population has access to water and 95 per cent has access to sanitation services. However, large investments are needed to maintain and upgrade existing infrastructure, as well as to develop new facilities. The collection and disposal of solid urban waste as well as recycling activities are carried out entirely by State-owned companies. The main constraints facing these sectors are lack of equipment, technology and finance.

The Government of Cuba attaches high priority to resolving environmental problems and in that regard, real investment in the environment has increased significantly. Cuba has a very comprehensive environmental legal framework, but it is not sufficiently complete to regulate services activities, which had a non-market character before the 1990s. The Government has determined that increased levels of FDI can be directed to the environmental services sector through the creation of joint ventures. Joint ventures with foreign capital have already been established in the water, recycling and other sectors.

However, in order to ensure sustained levels of FDI inflows into these sectors, it will be necessary to improve and strengthen their respective regulatory frameworks.

Several associations and joint ventures with foreign capital have been created to provide environmental services in different sectors of the economy, including the iron and steel industry; construction; science, technology and environment; tourism; basic industry; and hydraulic resources. In the aqueduct and sewage system sub-sector, the joint venture "Concessionaire Society for the Management and Promotion of Sewage, Cleaning, and Pluvial Drainage Services" (*Sociedad Concesionaria para la Gestión y Fomento de los Servicios de Alcantarillado, Saneamiento y Drenaje Pluvial S.A.*) is particularly important because of its size. Other joint ventures are *Aguas Habana*, with participation of the Spanish "Company Specialized in Engineering, Geographical and Environmental Solutions" (CESIGMA S.A.), and CUREF S.A., which is a joint venture between the Netherlands company CUREF SA and the "Union of Enterprises for the Recovery of Raw Material" (*La Unión de Empresas de Recuperación de Materias Primas*, UERMP), which processes and trades non-ferrous scrap for the export market.[21]

In Cuba, several joint ventures with participation of foreign capital have been created to provide environmental services in different sectors of the economy

In the **Dominican Republic,** water and sanitation services, as well as the collection and management of hazardous waste are largely handled by the public sector, as determined by existing legislation. Decentralized corporations manage water services, and the private sector is playing an increasingly important role in the administration and collection of charges. Although in some municipalities the provision of services is efficiently managed, serious problems in potable water supply are predicted if existing inefficiencies in administration and resource management are not resolved. The adoption of a more modern legal framework is considered necessary to improve coordination between the institutions involved, and to increase efficiency at all levels. Nevertheless, it is necessary to carry out a social impact assessment, in particular with regard to the poorest segments of the population, prior to possible privatization. Lack of progress in adopting the Framework Law *(Ley Marco)* can in part be attributed to difficulties experienced in the privatization of the electricity sector, where no significant improvements in the supply of this service were observed despite notable increases in electricity prices. However, to the extent that existing draft legislation will eventually be adopted without major changes, water and sanitation services are expected to be open for privatization. The level of revenue that will be generated from the commercial development of these services will depend on the capacity of the authorities to regulate and control eventual concessionaries and ensure that social criteria are not sacrificed.

Foreign services suppliers play a significant role in the collection and management of solid waste in the Dominican Republic.[22] Recycling activities are carried out entirely by private companies. Foreign firms also participate in a number of services with environmental end-use, including construction services related to basic infrastructure services such as potable water and wastewater treatment. There is a very large foreign participation in the professional services sub-sector (see below).

Foreign services suppliers play a significant role in the collection and management of solid waste in the Dominican Republic

In **Honduras**, the major constraint on private investment in environmental services is the absence of an institutional and regulatory framework. Although new legislation has been enacted to end State monopolies and create possibilities for private participation, it has not always been possible to effectively implement such legislation. In the case of water and sanitation, for example, the regulatory framework has yet to be completed. The existing legislation was enacted 40 years ago when a State enterprise was created with the mandate to supply basic water and sanitation services to all locations with over 500 inhabitants. A law adopted in 1999 authorizes the National Aqueducts and

Sewage Service (*Servicio Nacional de Acueductos y Alcantarillados*, SANAA) to grant concessions to private operators, but no concessions have been granted so far.

Waste management falls under the responsibility of municipal authorities in Honduras. However, municipal legislation authorizes the outsourcing of approximately 50 of such services, in particular waste collection, to private services providers. Waste collection has been privatized in the 22 largest municipalities, and there are also small services providers, such as community groups and natural persons that operate in the informal sector. In some cases, international concessions have been granted for the treatment and final disposal of solid and organic wastes.

Nicaragua has legislation in place that allows the issuance of concessions and licences to local and foreign firms as well as natural persons to supply services. In practice, however, basic environmental services are supplied largely by public companies.[23] The public sector in Nicaragua remains largely responsible for the provision of the majority of environmental services, particularly those associated with sewage, the treatment and disposal of wastewater, garbage collection and the monitoring of vehicle emissions. In general, these services are deficient and there is a need for more modern infrastructure and wider coverage of services, which represent high economic and political cost for both the investor and the host country. These are some of the reasons that make private investment in environmental infrastructure services somewhat unattractive.

Moreover, the public administration and private enterprises in Nicaragua tend to possess limited knowledge about the classification of different services they offer the population. This is the case, for example, with the monitoring of vehicle emissions. This service is seen more as an obligation or legal requirement that the citizen must fulfil if he/she owns a vehicle rather than an environmental service. This lack of understanding of the classification of environmental services also affects statistics and professional registrations as these do not faithfully reflect the existence of professional services of an environmental nature, and they are not registered as such – which makes it difficult to evaluate available statistical data.

NGOs promote the role of communities in providing environmental services in Panama

In **Panama**, with the exception of Panama City, solid waste management services have been privatized in all of the largest municipalities. The largest factor contributing to this development is the lack of efficiency of public services.

Non-governmental organizations (NGOs) play an important role in improving sanitation services. The association for the promotion of environmental sanitation in communities (*Asociación para la Promoción del Saneamiento Ambiental en Comunidad, APROSAC*), for example, is implementing various projects aimed at promoting improved sanitation services.[24] A solid waste project, supported by the Inter-American Development Bank (IDB), aims to implement a strategy to decentralize waste collection to municipalities and enable them to grant concessions to micro and small enterprises in beneficiary communities to deliver such services. The project seeks to strengthen the technical and financial capacities of micro and small enterprises, create employment, decrease the volume of waste that is improperly disposed of in communities, promote environmental awareness, and improve health conditions in beneficiary communities.

Legislation requiring environmental impact studies for new investments creates demand for environment-related professional services in several countries in the region

2. Professional services

Several Central American and Caribbean countries are developing or strengthening capacities in environment-related professional services. In the **Dominican Republic**, this sub-sector emerged as a result of Law 64-00, which created a legal obligation to carry out an environmental impact study, including the elaboration of an environmental management and adjustment programme (*Programa de Manejo y Adecuación Ambiental, PMAA*), before any new investment could be authorized, thereby creating a market that did not exist before. Thus, a new category of professionals emerged, representing different disciplines (almost 30 per cent are civil engineers, with different specializations).[25] Services suppliers are considered to fall under the category of environmental services if they are registered by SEMARN. Around 350 consultants and consultancy firms are currently registered, although it is estimated that only one third of them have actually carried out environmental impact studies since 2000. Around 25 per cent of the consultants are foreigners.

It was originally considered that environment-related professional services could and should be included under CPC 94090. A detailed analysis of the services suppliers registered by SEMARN shows that all of them have professions that belong to CPC division 85.[26] SEMARN and SEREX (*Secretaría de Estado de Relaciones Exteriores*) have created a working group of environmental services suppliers with a view to undertaking an analysis to ascertain whether and to what extent there are possible overlaps in the services registered by SEMARN and other services, as well as to issue an opinion on the possibility of making commitments in the context of the GATS. So far the group seems to favour the view that environmental and other services should be negotiated separately, although negotiations should be consistent with offers already made with regard to CPC division 85.[27] An exhaustive analysis is needed of immigration, labour and fiscal regulations before any offer can be made. The transfer of know-how is also an important concern. The sub-sector is quite open, but the 1992 Labour Code (*Codigo de Trabajo*) determines that foreign personnel of any company located in the Dominican Republic should not exceed 20 per cent of total personnel.

Several countries in the region keep registers of companies and natural persons providing environment-related professional services, e.g. environmental impact studies

The register of the College of Civil Engineers of **Honduras** includes providers of professional services related to water and sanitation. The Ministry of Natural Resources and the Environment keeps a register of professionals and institutions that provide services such as consultancies, environmental impact assessments and environmental auditing. However, the ministry does not possess a registry of providers of services of environmental management services. Data collected under the project indicate that approximately 80 companies provide design services and 30 companies provide construction services related to water and sanitation. In addition, there are some 158 individual consultants that are also qualified to provide design services.

Multilateral aid agencies, such as the IDB and the World Bank support the creation or strengthening of domestic capacities for the design and maintenance of sanitation services. These activities are carried out in the context of the modernization of the sector, prior to liberalization. It is to be noted that liberalization triggers resistance if it is not accompanied by efforts to consolidate and strengthen domestic capacities. It is expected that over a period of approximately two years domestic capacities will have been sufficiently strengthened to provide maintenance of sanitation services, either individually or through joint ventures.

The Labour Code of **Nicaragua** limits the number of foreign staff employed by legally established enterprises in the country to 10 per cent of total staff. The Ministry of

Labour is authorized to increase this limit if the enterprise can prove that the specialized skills it requires do not exist in the local labour market.[28] The Ministry of Finance (*Ministerio de Hacienda y Crédito Público)* has therefore established a mandatory register of service providers for enterprises and individuals that seek public contracts with the Government. However, the register in force in July 2003 contained no information on existing providers of environmental services in Nicaragua.

In the light of the aforementioned limited amount of national data, a survey was carried out as part of the project to obtain information reflecting the availability of professional environmental services in Nicaragua. The data obtained to date from the Nicaraguan Association of Sanitation Engineers demonstrate that there are approximately 20 enterprises that offer design services for water and sanitation and about 15 enterprises that provide construction services for water and sanitation. In addition, there are approximately 45 consulting companies qualified to offer design and consulting services in the area of water, sanitation and environmental engineering.

In Nicaragua, the official national register of professionals that lists both natural and legal persons that offer environmental services does not adequately reflect, in exact figures, the degree of professional environmental services that are on offer in the country. Therefore, before making any decisions regarding negotiations, it is vital to know the existing supply for that sector in Nicaragua.

In **Panama**, the National Environmental Authority (ANAM) has registered some 85 companies and 500 natural persons qualified to carry out environmental impact studies. Some 70 natural persons have been registered as environmental auditors, in addition tosix6 companies.

3. Demand for environmental services

There is a large need for environmental services in the region

One of the objectives of the country studies is to assess the demand for environmental services, as it has been observed that there is a strong need for environmental services in several countries in the region. In **Nicaragua**, for example, only 54 per cent of the population has access to potable water. The potable water coverage ratio is 79 per cent in urban areas and 20 per cent in rural areas.[29] Only 19 per cent of the population has access to sanitation services. It is estimated that in Nicaragua only 49 per cent of solid waste is recollected. Solid waste management is therefore one of most important urban environmental problems. Municipalities collect less than 50 per cent of waste and the rest is disposed of illegally. As much as 98 per cent of waste is disposed of in open-air waste sites and 13 per cent of these deposits do not comply with the standards of the Ministry of Health. The degree to which these needs are translated into demand for environmental services depends on several factors, such as availability of finance as well as existing regulations and their enforcement.

Infrastructure projects, environmental regulations for public services and industrial sectors as well as MEAs create demand for environmental services

In addition to the services mentioned above, large infrastructure projects, environmental regulations for a variety of public services, environmental requirements affecting industrial sectors and projects in areas such as climate change also contribute to creating demand for different categories of environmental services.

In **Cuba**, funding from the Japan International Cooperation Agency (JICA) has made it possible to implement a project to clean the harbour of Havana. This has in turn created demand for environmental services for the remediation and the treatment of oil spills as well as for systems to treat residual waters from the domestic and industrial

activities that are spilled into the bay and surrounding areas. Activities falling within the framework of the CDM will also generate demand for a range of environmental services.

The study on the **Dominican Republic** notes that investors also generate demand for local professional environmental services such as environmental impact assessments, which are legally required when they initiate procedures to obtain an environmental licence for activities in sensitive sectors.

In **Nicaragua**, the demand for environmental services at the municipal level (both rural and urban) is high. There is a general vacuum in waste collection related to changes in the way people dispose of household waste and lack of infrastructure. Also, the collection of black and grey waters is a priority for local governments as in most towns these waters are emptied directly into neighbouring water bodies (crater-formed lagoons, lakes, lagoons and the ocean). In addition, activities associated with coffee, dairy and tannery industries, and others, create a high volume of waste, demanding not only services but also user-friendly environmental technology.

To date, Nicaragua imports plastic and paper waste used to meet the needs of recycling plants in the country. This creates a need for environmental services and is also a way to provide an incentive for the environmental service market by stimulating short-term economic benefits, such as the ability to use waste (plastic, steel, aluminium, etc.) for commercial purposes.

Moreover, in Nicaragua there is a need to utilize environmental professional services to carry out impact and evaluation studies that are required by law. Impact and evaluation studies are a necessary prerequisite for obtaining a licence from the appropriate authority to undertake any private or public project that could modify the environment or the country's natural resources.

Also, in the light of the ratification of various multilateral environment agreements (MEAs), there are programmes and projects that are being implemented in Nicaragua that also require environmental services, both at a professional and an infrastructure level. Examples of this include the following: the implementation of the CDM as a result of the ratification of the Kyoto Protocol, and the need to manage hazardous wastes in accordance with obligations under the Basel Convention (BC) on the Control of Transboundary Movement of Hazardous Wastes and their Disposal.

In **Panama**, the Panama Bay sanitation project (*Proyecto de Saneamiento de la Bahía de Panamá*), one of the most important public works, is expected to create a large demand for environmental services, including sewage services, clean-up of water and land to decontaminate lakes, coasts and coastal water, and related consultancy services.

The Panama Bay sanitation project creates a large demand for environmental services

Regulations governing public services also generate demand for environment-related professional services. One example, referred to above, includes the requirement for companies to conduct environmental impact assessments prior to obtaining certain licences. The main regulatory authority for public services (*Ente Regulador de los Servicios Públicos*), created in 1996, is charged with ensuring that public services providers comply with existing regulations relating to the management of natural resources and the protection of the environment. Its mandate specifically covers services relating to potable water, sanitation, electricity, telecommunications, radio and television, and transmission and distribution of natural gas. Regulations require companies that provide water and sanitation services to present environmental impact studies and environmental plans prior to the development of new projects. Of particular importance is Law 6 of

1997, which regulates the electricity sector,[30] and has as its main objectives to secure the efficient supply of various sources of energy while respecting social, economic and environmental conditions, and to ensure financial viability.

Another project that is likely to generate demand for environmental services is the Programme of Instruments for Environmental Management and Enterprise Participation in Clean Production (*Programa de Instrumentos de Gestión Ambiental y Participación Empresarial en la Producción Limpia*). This project is the result of a formal agreement between the Government and the private sector, and aims to improve competitiveness and environmental performance through clean production systems. To effectively implement the project, time schedules have been established to monitor and ensure that companies comply with environmental standards, in accordance with the environmental impacts of their activities.

Finally, the Panama study lists carbon sequestration certificates as another potentially important factor that increases demand for environmental services. In fact, the electricity company *Fortuna* has successfully completed a process that has generated sales of carbon certificates. While carbon trading is not covered under the GATS services classification or within any of the proposals circulated so far, it is expected that national efforts to derive benefits from opportunities provided by the CDM will generate demand for environment-related professional services.

4. Export potential in environmental services

In most cases, strengthened national capacities in environmental services are expected to result in improvements in the coverage and quality of services available in the domestic market.[31] Some countries may have good potential to export professional services, in particular in cases where demand for such services is being created in the domestic market, as is the case in Panama. Export success will, however, to a large extent depend on quality assurance and the removal of possible obstacles to the "mode 4" provision of services in external markets.

In **Cuba** the most developed segments of environmental services are in the area of studies, assessments and consultancy services (CCP division 83).[32] Environmental consulting and studies constitute the most developed sub-sector. Given the high levels of education, Cuba has good export potential in this sub-sector. Cuba has exported such services to Brazil, the Dominican Republic, Haiti, Mexico, Nicaragua, Spain and Venezuela. However, there is a need to better assess potential export markets in the Caribbean.

In addition, there may be options for expanding regional trade in environmental services, including by incorporating "mode 4" provisions in the context of regional trade agreements. This issue has received relatively little attention in the country studies.

D. Trade liberalization in environmental services

1. WTO negotiations

Prior to Doha, two countries in the region - **El Salvador** and **Panama -** had already made liberalization commitments in certain segments of the sub-sector "other environmental services". The schedule of El Salvador covers cleaning services for exhaust gases

(94040); noise abatement services (94050); nature and landscape protection services (94060); and other environmental protection services (94090).

Since the Doha Ministerial Conference, Central American countries, Cuba and the Dominican Republic have received several bilateral requests to liberalize their environmental services sectors. Different classifications have been used in these requests, including classifications proposed by the European Communities. In general, countries have been requested to make horizontal commitments with regard to mode 4, as well as market access and national treatment commitments with regard to modes 1 (where technically feasible), 2 and, in particular, mode 3.

Cuba has proposed that market access negotiations should provide appropriate guarantees with respect to: [33]

- A real transfer of technologies on a favourable commercial basis to ensure that developing countries can enhance competitiveness;
- A transfer of associated know-how;
- The creation of national technical capacities, both human and institutional, to promote subsequent national development of these services; and
- Specific commitments concerning modes of supply of interest to developing countries.

This proposal indicates the importance that Cuba attaches to special and differential (S&D) treatment for developing countries in the EGS negotiations. In addition, it takes into account the fact that there is an intrinsic relation between trade in goods and trade in services, in particular because an important part of the imported services requires the importation of related environmental goods. Therefore, S&D treatment should be granted for environmental goods that are imported in conjunction with trade liberalization in certain environmental services. Examples of S&D conditions include commercial credits with "soft" conditions and long grace periods, as well as preferential conditions when developing countries export "mode 4" environmental services. One factor that makes it difficult to reach agreement on S&D in environmental services negotiations is the fact that conditions of trade in goods are largely determined by the private industry that dominates the international markets.

Guatemala has made an initial offer concerning market access and national treatment commitments in the sub-sector "nature and landscape protection services" (CPC 94060), including all modes of supply, provided that the provision of these services is consistent with national policies on the development and maintenance of natural resources and biodiversity; mode 4 commitments are subject to horizontal limitations.

2. National consultations

The authorities responsible for the trade negotiations of several countries organized consultations with other ministries and with services suppliers to determine how best to ensure the consistency of any new liberalization commitments with national policies. The factors taken into account included the specific sectors under consideration for liberalization, the modes of supply of possible commitments, and in particular, what specific conditions should be included in commitments, if any, to support the national development of environmental services.

In **Cuba,** studies were initiated in 1999 to provide support for national participation in WTO negotiations on environmental services. The studies have since been discussed

The authorities responsible for trade negotiations of several countries organized consultations with other ministries and with services suppliers

in a working group under the Subgroup on Trade in Services of the National Group on WTO (*Grupo Nacional de Atención a la OMC*). The Ministry of Science, Technology and Environment (CITMA) and The Ministry of External Trade (MINCEX) have held consultations with other ministries and providers of environmental services with a view to examining the implications of trade liberalization in EGS and proceeding with the development of a national study on environmental services. This analysis focuses on the structure of the environmental services sector; the export potential of firms operating therein, and in particular, the state of development reached by firms within the various sub-sectors.

Possible offers have not yet been fully assessed and little progress has been made thus far in evaluating the demand for environmental services. It is therefore important to further examine the sector and to obtain more insights concerning requests received from trading partners.

In the **Dominican Republic,** the principal concerns of SEMARN are to ensure the effective regulation of, and control over, environmental services. In the light of deficiencies in regulatory frameworks, information gaps and the experience acquired in recent years, the study makes the following recommendations:

An evaluation is required of several subsectors — solid waste, hazardous waste and recycling — to assess their characteristics and needs. There is also a need to determine the possible content and scope of coverage for an effective regulatory framework for the sector. Such a framework is expected to be implemented gradually. This would also provide baseline information to enable the monitoring of the impact of future actions (there are already initiatives underway with regard to hazardous waste).

Environmental services: Need for special protection in the GATS context

The study of **the Dominican Republic** notes that, in accordance with GATS Article XIX:2,[34] negotiations must respect national objectives and the level of development of individual WTO Members. This allows developing countries to safeguard the sectors and modes of supply considered to be sensitive within the context of the national economy, as has been done by the Dominican Republic. Addressing specific national conditions and overcoming the limitations within the existing legal frameworks are factors that have been taken into consideration in the Government's efforts to protect the environment. Similarly, the study on **Nicaragua** emphasizes that the environmental services sector, which supplies services related to basic needs of the population, should receive special protection and needs to be well regulated. Therefore, public-sector companies play an essential role in the provision of such services and foreign services suppliers are subject to a system of licences and concessions, as well as regulations and environmental impact assessments. The Government has the sovereign right, in accordance with the Constitution and GATS Article XIX.2, to subject foreign services suppliers to performance requirements and additional commitments, consistent with GATS Article IV.[35]

The liberalization and regulation of sub-sectors with regulatory gaps, such as sewage, hazardous waste and recycling, should be approached cautiously in the negotiations.

Before adopting any far-reaching strategy concerning the liberalization of the environmental services sector, a working group should be established comprising representatives from the sector, who, together with the negotiators, can assess the potential impact of trade liberalization on the various sub-sectors.

In summary, SEMARN considers that a cautious and gradual strategy would be appropriate in the context of the negotiations. More in-depth studies and the provision of technical assistance would be most useful in helping the Government to make more informed decisions in this regard.

The study by **Honduras** indicates that a thorough analysis of the potential advantages and disadvantages of market-opening measures in the water and sanitation sector has not yet been performed. A more profound dialogue among different national actors (trade and environment ministries and services providers) is therefore needed to evaluate the implications of liberalization of basic environmental services. There is also a need to create awareness of the potential benefits of liberalization among stakeholders and to convince municipal corporations that options for privatization already provided by existing legislation can be equitable and socially positive. The national study also emphasizes that it is important to strengthen local capacities in order to take advantage of trade in EGS, and that the process of liberalization should be gradual.

SEMARN considers that a cautious and gradual strategy would be appropriate in the context of the GATS negotiations

In **Nicaragua**, the Ministry of Development, Industry and Commerce (MIFIC) has held technical consultations with different sectors involved in the supply of environmental services, in particular sewage and wastewater treatment, waste collection and treatment, cleaning of exhaust gases, and emissions control. During the course of the consultations, a number of liberalization requests by Nicaragua's trading partners were examined. Discussions focused on possible market access and national treatment commitments for each mode of supply, environmental services that are not currently classified under the CPC, and national concerns in the area of environmental services.

National services suppliers, in particular in the water, sewage and waste management sectors, emphasized the importance of strengthening existing regulations and adopting new ones for the future development of an efficient sector. The consultations stressed the potential benefits of liberalization, such as (a) increased investment in environmental services and (b) transfer of technology, know-how and best practices, in particular when liberalization is accompanied by a strengthened regulatory framework, social policies and strategies aimed at supporting the national development objectives in each sector concerned. However, liberalization should be managed properly to ensure that it results in improvements in the quality of services provided, technology and environmental conditions, and that national policies are respected. In addition, foreign services suppliers should meet non-discriminatory performance requirements in accordance with GATS Article IV.

Further studies are required in order to assess the national situation and to formulate appropriate legislation before any commitment can be considered with regard to noise abatement services (CPC 94050), nature and landscape protection services (CPC 94060) and other environmental protection services (CPC 94090).

As previously mentioned, the national study of Nicaragua also recommends that an assessment of the potential supply of professional services in the country be performed.

In **Panama,** services represent 80 per cent of the gross domestic product (GDP), a small part of which corresponds to environmental services. Since services are the motor of the national economy, Panama's position in multilateral and regional negotiations tends to favour liberalization of trade in services. In the area of environmental services, prior to the Doha Ministerial Conference, Panama had already undertaken some commitments regarding specific activities falling under the sub-sector "other" environmental services, in particular cleaning services for exhaust gases (CPC 94040), noise abatement services (CPC 94050),[36] and nature and landscape protection services (part of CPC 94060).[37]

Panama's preliminary offer in the current negotiations broadens the scope of its existing commitments by including other sectors, namely sewage, elimination of hospital waste, and clean-up of water and land to decontaminate lakes, coasts and coastal waters.

E. Trade in environmental goods

At the time of writing, the project had completed relatively little work on environmental goods. However, it has taken into consideration the lists of "environmental goods" developed by the Organisation for Economic Co-operation and Development (OECD) and the secretariat of Asia-Pacific Economic Cooperation (APEC). In particular, a study has been carried out in Nicaragua.[38] An initial analysis of certain EPPs has also been performed in order to shed further light on this issue.

In many cases, environmental goods, for example equipment for the management of wastewater or waste, are used in conjunction with environmental services. The integrated nature of many environmental activities has led some analysts to believe that liberalization of trade in environmental goods should take place in parallel with liberalization in environmental services. Separate studies on environmental goods are nevertheless relevant, because of the differences in trade barriers (tariff and non-tariff barriers in the case of goods and restrictions with respect to national treatment and market access in the case of environmental services). However, in the context of the negotiating process, it is necessary to make an integrated assessment of environmental goods and environmental services.

1. WTO negotiations

In the context of the WTO, there is no agreed definition for environmental goods. Nevertheless, Ministers agreed at the Doha Ministerial Conference to start negotiations on certain aspects of the trade and environment linkage. The DMD specifically calls for the liberalization of trade in environmental goods. Negotiations on environmental goods take place in the Negotiation Group on Market Access (NGMA) for Non-Agricultural Products, and the Committee on Trade and Environment plays a role in clarifying the concept of environmental goods. This is of particular interest to countries in Central America and the Caribbean, because of their interest in EPPs.

A number of relevant policy questions are raised in the context of the WTO negotiations on trade in environmental goods, including: (a) whether to grant special treatment (such as a "zero-for-zero" agreement) and (b) to which goods such treatment would be

granted. The DMD provides guidance in addressing these questions. First, in order to benefit from special treatment, environmental goods should be selected "with a view to enhancing the mutual supportiveness of trade and environment" (paragraph 31). This, in turn, raises the question of how to address the problem of "multiple-use" products. Second, negotiations on environmental goods should take into account the overall objectives of market access negotiations and should therefore also be guided by paragraph 16 of the DMD. Thus, the negotiations should pay particular attention to "products of export interest to developing countries"; take full account of the special needs and concerns of developing countries; require "less than full reciprocity in reduction commitment" from developing countries; and promote capacity building. The relative importance of tariffs and non-tariff barriers should also be considered.[39]

WTO Members seem to have chosen to focus on a possible list of "environmental goods" rather than seeking to agree on a definition. It should also be noted that according to a recent US proposal two lists of environmental goods could be developed. A *core* list would comprise products on which there was consensus that they constituted environmental goods, and a *complementary* list could be developed for additional products that could have significance for environmental protection, pollution prevention or remediation, and sustainability.

2. Relevance of APEC and OECD lists for Central American countries

Central American trade in "environmental goods" as defined by OECD and APEC lists is very small

It is difficult to assess trade in goods on the OECD and APEC lists in particular because (a) these lists include many "multi-use" products that also have non-environmental use and (b) the problem of "ex-items", which cannot be uniquely defined at the 6-digit Harmonized Commodity Coding and Description System (HS) level. Consequently, available statistics tend to overestimate trade in environmental goods.[40] Even with these caveats in mind, three conclusions can be drawn. First, the trade of Central American countries in "environmental goods" (as defined by OECD and APEC lists) is very small, both in value terms and as in relation to their overall trade in non-agricultural products (i.e. products covered by the NGMA mandate). Second, Central American countries are

Table 2
Central America, 2000: Trade in "environmental goods" (OECD and APEC lists) (US$ millions)

	OECD list				APEC list			
	Exports	Imports	Balance	X/M	Exports	Imports	Balance	X/M
Costa Rica	81.6	265.5	-183.9	30.7	91.8	264.8	-173.0	34.7
El Salvador	30.9	111.3	-80.4	27.7	4.0	68.2	-64.2	5.8
Guatemala	35.7	155.5	-119.8	23.0	4.8	98.3	-93.5	4.9
Honduras	5.5	77.5	-72.0	7.1	1.1	53.0	-51.9	2.1
Nicaragua	3.9	45.2	-41.3	8.6	0.2	27.1	-26.9	0.9
Panama	18.3	89.0	-70.7	20.6	0.9	64.8	-63.9	1.4
Total	175.9	744.0	-568.1	23.6	102.8	576.2	-473.3	17.8

X/M = value of exports as a per centage of the value of imports.
Source: UNCTAD on the basis of COMTRADE

net importers. Third, with the exception of ethanol, the key products in terms of trade values are basket items, which normally implies that they are "multiple-use" products.

Even considering that trade data are highly inflated, the estimated value of exports of goods on the OECD and APEC lists was not more than US$ 176 and US$ 103 million respectively in 2000 (see table 2). The value of exports on either list amounted to US$ 220 million. Apart from ethanol, 2000 exports of Central American countries exceeded US$ 10 million in only five other 6-digit HS codes on either the APEC or OECD list. They all appear to be "multiple-use" products that may or may not have an environmental end-use.[41] Only three of these items are on the APEC list and all are "ex-items" (see annex III).

Available data for Central American countries show a positive trade balance in only very few cases (at the 6-digit HS level). For example, Costa Rica has a positive trade balance in only 8 out of 122 products and there are even fewer products in the case of other Central American countries. The APEC list does not include a single product with a positive trade balance for El Salvador, Honduras, Nicaragua or Panama (see Table 3).

Table 3
Central America, 2000: "Environmental goods" of export interest on the OECD and APEC lists (number of 6-digit HS codes)

Country	Number of HS codes with export values > US$ 500,000			Number of HS codes with positive trade balance		
	OECD or APEC	OECD	APEC	OECD or APEC	OECD	APEC
Costa Rica	17	14	12	8	7	3
El Salvador	9	9	1	2	2	0
Guatemala	11	11	3	5	5	1
Honduras	2	1	1	2	1	0
Nicaragua	2	2	0	3	3	0
Panama	3	3	1	1	1	0

3. Products of interest to Central American and Caribbean countries

The analysis above shows that the OECD and APEC lists include very few products of export interest to Central American countries. Several proposals have been made, including at the recent UNCTAD expert meeting, aimed at achieving a more balanced approach in the negotiations, in particular by (a) identifying products of export interest to developing countries; (b) excluding "multiple-use" products that may have little environmental application; and (c) addressing technology and capacity-building needs. As mentioned earlier, most of Central America's already very modest trade in products on the APEC list consists of "basket products". Thus, if multiple-use products were excluded, trade flows would be very small indeed.

Most products of export interest to the region belong to the category of agricultural environmentally preferable products

There is a broad convergence of views that the negotiations should pay greater attention to products of export interest to developing countries. In this context, Central American countries, which are exporters of agricultural products, face two problems in particular. First, the NGMA does not cover agricultural products. Second, most products of

export interest to the region belong to the category of EPPs. While there is a broad consensus that certain categories of EPPs could be included in the EGS negotiations, the majority of WTO Members have argued against the use of criteria based on non-product-related production and process methods (PPMs) to select products for the negotiations.[42]

Environmental goods: The case of Nicaragua

A case study, carried out in Nicaragua, on products on the APEC and OECD lists indicates that in the period 2000-2002 the value of imports into Nicaragua of products on those lists was around US$ 25 and US$ 45 million per year respectively. Whereas import values were more or less stable, export values were growing quickly, although remaining very small (less than US$ 4 million and US$ 9 million for respectively the APEC and OECD lists in 2002). In Nicaragua, ad valorem rates for non-agricultural products are bound at 40 per cent. Applied rates, however, are much lower. The vast majority of products on the APEC and OECD lists have zero applied rates (86 per cent of corresponding tariff lines and 69 per cent in terms of import values). Most remaining products have applied rates of 0 to 5 per cent and only some have tariffs of between 10 and 15 per cent. This is in line with Nicaragua's policy of applying zero tariffs to products that are not produced in the country (a 5 per cent tariff is applied to products that, while not being produced in Nicaragua, are produced in other countries which are members of the Central American Common Market). The study also contains a section on EPPs, focusing almost exclusively on organic agricultural products.

The study argues that in the light of the current low level of imports and the fact that applied rates are already very low, Nicaragua could offer to bind current applied rates for environmental goods at zero per cent. It also calls for the elaboration of a list of environmental goods of interest to Nicaragua. The study makes a number of other recommendations, such as notification by exporting countries of non-tariff barriers facing environmental goods in export markets, and preferential access to developed countries' markets for organic agricultural products and other EPPs.

One product of export interest to various countries in the region (Guatemala, Costa Rica, El Salvador, Panama and Nicaragua) is ethanol (HS 220710). This product is included in the OECD list, but not in the APEC list. Ethanol (which is an agricultural product) does not fall under the mandate of the NGMA. Some, however, have expressed concern about the environmental impacts of ethanol.

Central American and Caribbean countries are competitive in a range of products that could be considered inherently environment-friendly. Guatemala, for example, is an important exporter of natural rubber, as well as raw vegetable materials of a kind used in dyeing (140410). Central American countries also export other natural products, although on a much smaller scale. For example, El Salvador exports turpentine gum (HS 130190), twine (HS 5608), and jute bags (HS 630510). Nicaragua also exports twine. However, other countries in the region are also net importers of such products and trade seems to be largely intra-regional.

Countries in the region have identified trading opportunities for organic agricultural products as an important theme to be addressed by the project

It is notable that countries in the region have identified trading opportunities for organic agricultural products as an important theme to be addressed by the project (under the market access cluster). One issue of concern is trade barriers resulting from the existence of a large number of standards, as well as regulations and procedures in importing countries. At the Cuba meeting, some participants suggested that non-tariff trade barriers facing exports of organic agricultural products from developing countries could be addressed under the EGS negotiations.[43] One participant suggested that since the NGMA does not deal with agricultural products and since it might be undesirable to bring up new issues in the context of the agricultural negotiations, organic agriculture could be addressed in the CTESS.

In preparing national positions on environmental goods it is important:

- To identify a list of environmental goods of national interest, taking into account supply capacity.
- To identify tariffs and non-tariff barriers in external markets for products with export potential. As the supply potential of Central American and Caribbean countries may consist largely of EPPs, there is a need to pay special attention to non-tariff barriers (NTBs) affecting those products. There may be merit in designing a broad illustrative list of products and then proceeding with their examination to determine whether trade liberalization is best pursued within the context of paragraph 31(iii) or through other means such as via trade facilitation measures.
- To assess the possible losses in tariff revenues and compare them with potential environmental benefits from trade liberalization. The treatment of "multiple-use products" is more important to developing countries that maintain relatively higher tariffs as it could involve a significant loss of tariff revenues without necessarily generating environmental benefits. In a number of Central American countries, such as Costa Rica, tariffs are already quite low.
- To identify capacity-building needs.

F. Orientation of further activities

1. Capacity-building needs

There is a need to create networks to effectively address issues that arise in the negotiating process and design policies to strengthening domestic EGS capacities

Activities carried out so far have provided insight into the type of capacity-building efforts that need to be supported. National workshops in Nicaragua and Panama have been useful for clarifying the concepts of environmental goods and environmental services. Participants in those workshops emphasized the need to create networks of government ministries and other stakeholders that can effectively address issues that arise in the negotiating process and that can also design policies aimed at strengthening domestic EGS capacities. It must be taken into account that Central American countries are simultaneously involved in several negotiating processes at regional and multilateral levels.[44]

National consultations are particularly useful for examining linkages between national policies and the negotiations, and to determine whether linkages exist between different negotiating processes. The project supports such national consultations by facilitating information gathering and strengthening research capacities. National consultations and studies assist countries in the design of national policies and regulatory frameworks aimed at ensuring that, as much as possible, liberalization in environmental services strengthens national capacities, promotes the transfer of technology and enhances efficiency and competitiveness. National consultations and regional dialogues also assist beneficiary countries in identifying policies that allow them to preserve or create

space for the domestic environmental services sectors, in accordance with provisions in GATS Articles IV and XIX:2.

The project has played an important role in promoting the exchange of national experiences between countries in the region, in particular regarding domestic regulations and linkages between regulatory frameworks and the expected outcomes of liberalization. The project also strongly promotes interaction between Geneva-based negotiators and policy makers in capitals as well as between different countries in the region, to help explore issues of common concern.

One of the main challenges is to determine and extract the specific kind of information that trade negotiators require

One of the main challenges faced in implementing the present project is being able to determine and extract the specific kind of information that trade negotiators require from that which has been gathered and analysed under the project. This includes information on sub-sectors to be excluded from liberalization commitments[45] and conditions to attach[46] to possible liberalization commitments that may be scheduled under the GATS. Similarly, trade negotiators need information on sub-sectors with export potential, and information relating to obstacles to such exports in external markets. With this information to hand, negotiators will be in a better position to elaborate more specific and well-defined requests to trading partners. It is therefore important for environmental officials to enhance their understanding of the scope and objectives of the WTO negotiations and provide relevant information to trade negotiators. To facilitate this process, trade officials should brief environmental officials on relevant WTO negotiations as well as the limitations of the WTO in addressing environmental issues.

2. Priorities

On the basis of the preliminary results of the national studies, the discussions in meetings held so far, and the analysis presented in this article, it is suggested that immediate action be taken based on the following priorities:

- Development of a methodology for national (and regional) studies on EGS to assist countries in their participation in the WTO negotiations.
- In the area of environmental services:
- Revision and completion of draft national studies on environmental services, taking into account the implications of CAFTA (where applicable);
- A comparative analysis of national experiences;
- Further national and regional consultations;
- Identification of issues of common regional interest in the services negotiations;
- In the medium term: discussions on certain ecosystem services.

In the area of environmental goods

- Consultations on national and regional (“core” and “complementary” lists) of environmental goods;
- Discussions on criteria for selecting EPPs that could be included in the negotiations on paragraph 31 (iii);
- Discussions on how organic agriculture could be linked with the Doha work programme, if at all;
- Discussions on ways to promote markets for environment-friendly goods and services from the region, beyond the context of the EGS negotiations. This concerns products that could be considered EPPs on the basis of PPM-related criteria in particular.

To ensure sustainability, the project should pay particular attention to the creation of national and regional networks of government ministries and other stakeholders.

G. Conclusions

Trade liberalization in environmental services has potential benefits for Central American and Caribbean countries, such as increased investment, the dissemination of best practices and easier access to technology and know-how. Countries in the region are net importers of environmental services and the potential benefits of trade liberalization will largely be achieved through an increased supply of better and more efficient services in their own domestic markets. However, liberalization should be accompanied by a strengthened regulatory framework, including its effective implementation and enforcement, as well as social policies and strategies aimed at supporting the national development in each of the sectors. Countries in the region may have potential in exporting professional services, but the degree of market potential they possess still has to be assessed.

Liberalization should be accompanied by a strengthened regulatory framework, including its effective implementation and enforcement

Some countries in the region have liberalized certain sub-sectors and allow foreign direct investment, although no commitments have been made in the GATS context. The exercise of caution and a gradual approach to liberalization commitments is needed in view of the insufficiency of regulatory frameworks and institutional capacities in these countries. Their situation is also characterized by difficulties in assessing demand and supply as well as an insufficient understanding of the implications of liberalization, in particular in sub-sectors for which data are largely unavailable.

Developing countries should use bilateral consultations in which liberalization requests by developed countries are discussed, in order to explore opportunities to link the negotiations and discussions on EGS with a range of issues to "level the playing field", including with regard to special and differential treatment, access to, the transfer, and use of environmentally sound technologies (ESTs), standards and market entry barriers for EGS.

The project envisions further work aimed at helping beneficiary countries to become better informed and to participate more actively in the WTO negotiations on EGS. These efforts should focus on filling information/research gaps, in particular by completing national studies and strengthening policy coordination. The project should pay particular attention to creating national and regional networks of government ministries and other stakeholders to follow up on the results of its activities. The project should also explore issues of common regional interest and support a stronger voice of developing countries in general, and Central American and Caribbean countries in particular, in the WTO negotiations.

The project should assist beneficiary countries in the development of illustrative lists of environmental goods that reflect their national interests

In the area of goods, the project should assist beneficiary countries in the development of illustrative lists of environmental goods that reflect their national interests and, where appropriate, sustainable development and trade interests at the regional level. It is important that countries which benefit from the project consider the results obtained from the studies on environmental goods that are currently underway. This will assist them in defining their export interests and improving their access to different markets, as well as in identifying and working towards overcoming potential existing tariff and non-tariff barriers for trade in EPPs.

There is a great demand for environmental services in the countries that participate in, and benefit from, the UNCTAD-FIELD project. It usually brings with it certain needs related to the use and acquisition of ESTs, as well as in relation to the creation and modernization of infrastructure. This demand creates high economic, political and social costs that in most instances these countries cannot meet. This can in part be attributed to the need for more political will and economic support. Awareness at the national and international levels is therefore essential in order to achieve progress as intended by the DMD.

The authors gratefully acknowledge the assistance of Cristobal Felix Diaz Morejon, Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA) Cuba, Alejandro Mercedes, consultant to SEMARN, Dominican Republic, Margarita Nuñez, consultant, Nicaragua, Hugo Rivera Santana, Director, External Trade and Administration of Trade Agreements, Dominican Republic and Luis Abugattas, UNCTAD secretariat.

POST SCRIPT
Implications of the Central American Free Trade Agreement for trade liberalization in environmental goods and services

The recent Central American Free Trade Agreement (CAFTA) has important implications for liberalization of trade in goods and services, including environmental services. Negotiations on CAFTA between the United States and five Central American countries started in January 2003. Negotiations with El Salvador, Guatemala, Honduras and Nicaragua culminated in the announcement of the agreement on 17 December 2003. Costa Rica has also participated in the negotiations from the beginning, but was not part of the December agreement, largely because it needed more time to consider the implications of services liberalization for monopolies in its telecommunications and insurance sectors. On 25 January 2004, the United States and Costa Rica concluded negotiations to finalize Costa Rica's participation in CAFTA. Negotiations aimed at integrating the Dominican Republic into CAFTA began in January 2004. In addition, the United States will initiate Free Trade Agreement (FTA) negotiations with Panama during the second quarter of 2004.[47]

CAFTA is expected to result in far-reaching liberalization in services trade. The Central American countries will have to accord substantial market access across their entire services regime, subject to "very few" exceptions.[48] It is important to note that CAFTA has adopted the "negative list" approach and not the GATS "positive list" approach. This means that all services sectors are presumed to be open, unless explicit reservations are entered in specified areas. However, like the GATS, CAFTA excludes services provided by the public sector. Market access commitments apply across all services sectors, including environmental services, as well as energy services and professional services. Consequently, Central American countries need to carefully examine in which subsectors of environmental services they want to consolidate existing market access restrictions in accordance with national sustainable development objectives through explicit reservations. There is also greater urgency to develop and effectively implement regulatory measures to accompany trade liberalization.

CAFTA also contains provisions on investment and government procurement that may have implications for trade in certain environmental services.[49] In the area of investment, CAFTA establishes a secure, predictable legal framework for US investors operating in Central American countries. [50] US investors will enjoy "in almost all circum-

stances"[51] the right to establish, acquire and operate investments on an equal footing with local investors, and investors of other countries, unless specifically stated otherwise. With regard to government procurement, US suppliers are granted non-discriminatory rights to bid on most contracts from Central American government ministries, agencies and departments. Government procurement provisions cover purchases of most central (as defined by each country) government entities, including key ministries and State-owned enterprises, excluding low-value contracts. [52]

At the time of writing it is not entirely clear for which sub-sectors of environmental services CAFTA countries plan to take reservations and what, if any, would be the impact of CAFTA on the provision of certain environmental services that are currently managed largely by the public sector. Legitimate civil society concerns in the area of basic environmental services may weigh significantly, in particular in the light of the importance CAFTA attaches to public submissions to ensure that views of civil society are appropriately considered (see below). Testimony by the US service industries indicates an interest in liberalization in services for environmental clean-up, remediation, prevention and monitoring.[53]

CAFTA does not contain specific provisions on environmental goods. However, tariffs on environmental goods will fall as a result of across-the-board tariff reductions. Under CAFTA more than 80 per cent of US exports of consumer and industrial products to Central America will be duty-free immediately upon the entry into force of the Agreement, and 85 per cent will be duty-free within five years. All remaining tariffs will be eliminated within 10 years. CAFTA trade flows in environmental goods are very small and consist largely of CAFTA imports of US products. Thus, CAFTA further reduces the relevance of tariff revenues from imports of environmental goods for Central American countries.

Two other noteworthy areas of CAFTA provisions relate to trade capacity building and environmental cooperation. CAFTA will include a Committee on Trade Capacity Building, in recognition of the importance of such assistance in promoting economic growth, reducing poverty and adjusting to liberalized trade.[54] This includes capacity building in the area of trade in environmental services. An example is a study on the potential for exporting environmental services in Nicaragua.[55]

According to the United States Trade Representative (USTR), commitments and cooperation in the area of environmental protection go beyond environment-related provisions in earlier FTAs with Singapore and Chile through provisions seeking to develop a robust public submissions process to ensure that views of civil society are appropriately considered, as well as benchmarking of environmental cooperation activities. It is also noteworthy that environmental obligations are part of the core text of the trade agreement. CAFTA contains an environmental cooperation agreement that provides a framework for undertaking environmental capacity building in the CAFTA countries and establishes an Environmental Cooperation Commission. The environmental cooperation agreement identifies a number of priorities:

- Strengthening the capacity to develop, implement and enforce environmental laws;
- Promotion of incentives to encourage environmental protection;
- Protection of endangered species;
- Promotion of clean production technologies; and
- Building capacity to promote public participation in the environmental decision-making process.

It is not sure when CAFTA will enter into force. At the time of drafting, the text of the agreement was yet to be released. Under the Trade Act of 2002, the US Administration must notify Congress at least 90 days before signing the agreement. The Administration expects to notify Congress in early 2004 of its intention to sign the CAFTA. It will also continue to consult with Congress on the agreement to pave the way for eventual consideration.[56] CAFTA also has to be ratified by the Central American countries.

ANNEX I
List of (draft) national studies

Cuba

Raúl Garrido Vázquez *Evaluación Nacional sobre Servicios Relacionados con el Medio Ambiente. Estudio de caso de Cuba*

Dominican Republic

Catherin Cattafesta, *Diagnostico preliminar, República Dominicana*. Study prepared for the Ministry of Environment and Natural Resources of the Dominican Republic.

Honduras

República de Honduras, Secretaría de Recursos Naturales y Ambiente, Secretaría de Industria y Comercio, *Estudio sobre los Servicios Ambientales en Honduras con Vistas a la Formulación de Posiciones Nacionales de Negociación post-Doha*

Nicaragua

Permanent Mission in Geneva, Ministry of Foreign Affairs and Ministry of Development, Industry and Commerce (MIFIC), *Estudio Preliminar de la Situación de Servicios Ambientales en Nicaragua.*

ANNEX II
List of additional studies commissioned

Cuba

Cristobal Felix Diaz Morejon, *National study on environmental goods and services in Cuba.*

Dominican Republic

Catherin Cattafesta and Alejandro Mercedes, *Environment-related services and environmental goods in the Dominican Republic: Characteristics of supply.*

Guatemala

Evelio Alvarado, *National study on environmental services in Guatemala.*

Honduras

Nelson Trejo*, National study on environmental goods and services in Honduras.*

Nicaragua

Margarita Nuñez, *National study on environmental services in Nicaragua.*

Guillermo Lopez, *National study on environmental goods in Nicaragua*.

Panama

Aristides Iván Hernández Pérez, *Estado de los Bienes y Servicios Ambientales en Panamá en el Marco de la Apertura Económica. July 2003.*

ANNEX III
Central America (2000): key exports of environmental goods, as defined by OECD and/or APEC lists.

Table 4
(Export values of over US$ 10 million at the 6-digit HS level)

6-digit HS code	Description *Additional product specification (APEC)*	Environmental end-use	Exports in 2000 (US$ millions)	
392690ex	Other articles of plastics and articles of other materials of headings 3901 to 3914; other *Bio-film medium that consists of woven fabric sheets that facilitate the growth of bio-organisms.* *Rotating biological contactor consisting of stacks of large (HDPE) plates that facilitate the growth of bio-organisms.*	Wastewater management	Costa Rica	25.8
			El Salvador	2.6
			Guatemala	1.3
			Panama	0.8
731021 (OECD)	Cans < 50 l, closed by soldering or crimping	Wastewater management (sewage treatment)	Costa Rica	9.8
			Guatemala	2.4
731029 (OECD)	Other cans < 5011	Wastewater management (sewage treatment)	Guatemala	8.0
			El Salvador	3.6
847990ex	Parts of Machines and mechanical appliances having individual functions, NES. *Parts of trash compactors*	Potable water treatment	Costa Rica	33.5
854389ex	Electrical machines and apparatus, having individual functions, NES *Ozone production systems*	Wastewater management	Costa Rica	15.2

Notes

[1] El Salvador joined the project in late 2003.

[2] The other priority issue is environmental requirements and market access, including the promotion of production and exports of environmentally preferable products, in particular organic agricultural products. The project also has a component for South and South-East Asia (for Bangladesh, Cambodia, China, Philippines, Thailand and Viet Nam). The project is being implemented in cooperation with the Foundation for International Environmental Law and Development (FIELD).

[3] In a briefing note on services and developing countries, the UK Department for International Development (DFID) states: "We are working for improvements to the WTO such as a stronger voice for developing countries in negotiations, increased transparency and rules which are flexible enough to meet the needs of developing countries". Trade Matters. September 2001; htttp://www.dfid.gov.uk/AboutDFID/files/itd/itd_services_brief.pdf

[4] Raúl Garrido Vázquez, *Scoping paper on EGS.*

[5] For more information please see comments by Umberto Mazzei in the Commentaries chapter of this Review.

[6] Experts from Brazil, Colombia, Cuba, the Dominican Republic, Guatemala, Honduras, Mexico, Nicaragua and Panama participated in the workshop.

[7] The workshop was organized in cooperation with the Central American Commission for Environment and Development (CCAD).

[8] The Nicaragua workshop revealed that this concept of environmental services is very broad and includes services provided by ecosystems (such as carbon sequestration, water supply and control of water systems and scenery beauty), species (including, for example, materials used by the pharmaceutical industry and production of food) and genes (including genetic resources and materials).

[9] Republica de Honduras, Secretaria de Recursos Naturales y Ambiente, Secretaria de Industria y Comercio, Estudio sobre los Servicios Ambientales en Honduras con Vistas a la Formulación de Posiciones Nacionales de Negociación post- Doha.

[10] Catherin Cattafesta, *Diagnostico preliminar, República Dominicana*. Study prepared for the Ministry of Environment and Natural Resources of the Dominican Republic.

[11] In several country studies the view is expressed that in the future negotiations may perhaps touch on certain eco-system services. One study (Nicaragua) suggests that certain ecosystem services could eventually be included in the category "other services" in the classification used in the WTO. There is a need to discuss the likelihood and possible implications of such development under the project.

[12] Experience shows that much attention is given to goods and services provided by forests. Products provided by forests include water, wood, biological material, medicinal plants, artisan products, edible fruits and plants and other non-timber forest products, as well as agricultural and livestock products.

[13] Services Sectoral Classification List, Note by the Secretariat, MTN.GNS/W/120.

[14] For a more elaborate discussion on this issue, see the previous article in this Review.

[15] Communication S/CSC/W/25 as modified by job 7612 dated 28 November 2000.

[16] See the comments by Ulrike Hauer in chapter 2 of this Review

[17] The EU proposal is the most far-reaching and controversial as it includes "water for human use and wastewater". W/120 includes sewage but not water for human consumption.

[18] Dr. Raúl Garrido Vázquez, CITMA, and Lic. Alina Revilla Alcaza, MINCEX, Resultados preliminares de los estudios sobre bienes y servicios relacionados con el medio ambiente en Cuba.

[19] Case studies may assist Central American and Caribbean countries in their participation in the work of the Council for Trade in Services in Special Sessions (CTSSS). In accordance with the *Guidelines and procedures for the negotiations on trade in services*, the CTSSS will continue to carry out an assessment of trade in services in overall terms and on a sectoral basis with reference

to the objectives of the GATS and of Article IV in particular (see WTO document S/L/93 of 29 March 2001).

[20] Sewage and refuse disposal, sanitation and other environmental protection services.

[21] UERMP is a State organism created in 1961 and is in charge of the recovery, processing and trading of recyclable solid waste. It is a self-financed organization, which covers the national territory and trades in both the internal and external markets. Currently, it specializes in three recycling aspects that are vital for the economy: cleaning, import substitution and promotion of new export items. Among the latter, the following can be highlighted: ferrous scrap iron, steel, stainless steel, fused iron, bronze, copper, aluminium, lead, other non-ferrous materials, paper and cardboard, plastic, plastic packaging, textile packaging, glass waste, textile waste. Additionally, several products are in the development phase, including electronic scrap, pneumatics (granulated rubber), PET, batteries and toner cartridges.

[22] In 2000, the Dominican Republic, as part of an agreement with the World Bank aimed at securing provision of basic services to the tourism sector, agreed to privatize the management of potable water and sewage services. However, pilot projects concerning the construction of a sewage system and a sanitary system in an important tourism area have not yet been implemented.

[23] In the 1990s the city of Managua contracted an Italian company (HIDROJET) to manage urban waste collection. However, this did not work well in practice for several reasons, including the fact that no market study had been carried out, lack of payment by users of the services provided, and the introduction of a waste collection system (through containers located in several parts of the city) with which citizens were not familiar (previously household waste was collected door-to-door). Later a new private company (ECOLOGIA 2000) was established to supply services to specific segments of the market (hotels and restaurants).

[24] The objectives of APROSAC are to promote the participation of communities, municipalities, micro and small enterprises in the environmental management and tourism sectors and public and private institutions in exploring development alternatives. Msc. Arq. Maribel Rodríguez M. Coordinator APROSOC-IDB solid waste project, and Executive Director APROSOC, presentation made at the national workshop on EGS in Panama.

[25] Catherin Cattafesta and Alejandro Mercedes, Servicios Relacionados con el Medio Ambiente en la Republica Dominicana; Caracterización de la Oferta (first draft), September 2003.

[26] The Dominican Republic has made market access and national treatment commitments in this category, with no limitations concerning modes 1 and 3. This offer was made following long deliberations involving trade negotiators and CODIA (*Colegio Dominicana de Ingenieros, Arquitectos y Agrimensores*).

[27] Law 6200 of 1963 determines the conditions under which professional services in the areas of engineering, land surveying and architecture are provided. In particular, article 17 establishes that foreign services suppliers can receive an authorization ("exequátur") to operate in the Dominican Republic only if Dominican nationals are allowed to provide the same service in the territory of the country of which the foreign services supplier is a national.

[28] Labour Code of Nicaragua of 1996.

[29] Wastewater treatment coverage levels in Latin America are extremely low. Even in Brazil, only 40 per cent of wastewater is collected and only 10 per cent of that is treated. Many Latin American cities offer concessions to the private sector for the collection of municipal waste. An important market exists in many countries for the collection and disposal of commercial wastes. However, the region continues to lag behind in effective third-party treatment solutions. Efforts to develop regional hazardous waste disposals have floundered in the face of local opposition. Grant Ferrier, The Environmental Industry and the Prospects for Building Capacity in Developing Nations, in UNCTAD, Energy and Environmental Services, Negotiating Objectives and Development Priorities, pp. 402-405, 2003.

[30] Public, private or mixed enterprises in the electricity sector undertaking projects that can have adverse environmental effects or result in social relocations are obliged to avoid, mitigate, restore and provide compensation for adverse environmental and social effects of their operations in accordance with existing legislation and dispositions of the competent authorities (Article 151).

[31] Grant Ferrier argues that strengthening capacities in environmental services in developing countries requires: (a) creating market demand; (b) policy to encourage foreign participation and technology transfer; (c) a clear position on privatisation; and (d) education and training to create a competent labour force and selection of contractors. Grant Ferrier, The Environmental Industry

and the Prospects for Building Capacity in Developing Nations, In UNCTAD, Energy and Environmental Services, Negotiating Objectives and Development Priorities, pp. 409-411.

[32] Raúl Garrido Vázquez, Evaluación Nacional sobre Servicios Relacionados con el Medio Ambiente. Estudio de caso de Cuba.

[33] Communication from Cuba, Negotiating Proposal on Environmental Services, S/CSS/W/142, 22 March 2002.

[34] Article XIX.2 provides flexibility for individual developing country Members to open fewer sectors, liberalize fewer types of transactions and progressively extend market access in line with their development situation, and when making access to their markets available to foreign service suppliers, attach to such access conditions aimed at achieving the objectives of Article IV.

[35] Article IV.1 provides for increasing participation of developing country Members in world trade in services through, among other things, specific commitments relating to the strengthening of their domestic services capacity and its efficiency and competitiveness, *inter alia* through access to technology on a commercial basis.

[36] Commitments are limited to the specific activities, i.e. the implementation and installation of new or existing cleaning systems, remedial, preventive and monitoring services, and consulting services in these fields.

[37] Exclusively services for conducting studies on the relationship between the environment and climate, including services for evaluation of natural disaster and reduction of their consequences.

[38] Msc. José Guillermo López, Situación de Bienes Ambientales (BA) en Nicaragua según Listas OCDE y APEC.

[39] See Report of the Expert Meeting on Definitions and Dimensions in Environmental Goods and Services in Trade and Sustainable Development, TD/B/COM.1/59 and TD/B/COM.1/EM.21/3, 27 August 2003.

[40] See UNCTAD, Environmental Goods, Trade Statistics of Developing Countries. TD/B/COM.1/EM.21/CRP.1, non-edited version, 3 July 2003.

[41] A separate analysis of Cuban exports and imports on the APEC list found that Cuba has a trade deficit in all products. Only one export product (solar energy panels) would have predominant environmental end-use.

[42] This would be the case of products derived from "sustainable agriculture", "sustainable fisheries" or "sustainable forestry" which appear on the OECD, but not the APEC list. In the NGMA meeting in November 2002, New Zealand stated that it had taken action to promote trade in such products, for example through the use of eco-labelling. However, it added that there was a critical line between promoting trade in those products through schemes such as eco-labelling and accepting measures that would open the way to discrimination against products which were otherwise like products. On that basis New Zealand suggested that the NGMA would need to be very careful on how it applied some aspects of the categorization used in the OECD list for the purposes of this negotiation. WTO, TN/MA/M/4, 17 January 2003

[43] This will be examined, for example, in a study on the Dominican Republic.

[44] Different modalities may be used in different negotiations. For example, liberalization in the context of the GATS is based on a "positive list" approach — that is, WTO Members make commitments when they decide to consolidate or liberalize trade in certain services. In the context of other negotiating processes, countries can exclude certain services activities from trade liberalization, but have to make a "reservation" to do so. CAFTA has adopted the negative list approach (see Annex). In other negotiating processes, both options (positive lists and reservations) are being considered.

[45] In accordance with the Preamble and Article VI of the GATS.

[46] In accordance with GATS Articles XVI and XVII.

[47] Office of the United States Trade Representative (USTR), press release, 17 December 2003. Available on: http://www.ustr.gov/releases/2003/12/03-82.pdf.

[48] USTR, Fact Sheet on: *Free Trade With Central America, Summary of the U.S-Central America Free Trade Agreement.* 17 December, 2003, http://www.ustr.gov/new/fta/Cafta/2003-12-17-factsheet.pdf. This note draws heavily on that fact sheet.

[49] USTR, op. cit.

[50] USTR, op. cit.

[51] USTR, op. cit.

[52] USTR, op. cit.

[53] According to the Coalition of Service Industries, "Negotiators should seek commitments that include services for environmental clean-up, remediation, prevention and monitoring. With this broad scope of services negotiators should seek deep and broad commitments across all modes of supply. Environmental services suppliers should be allowed to import, on a temporary duty-free basis, tools and equipment essential to the provision of those services". Coalition of Service Industries, Written Testimony on the Central American Free Trade Agreement for the Trade Policy Staff Committee, Office of the United States Trade Representative, 2 December, 2002. http://www.uscsi.org/pdf/CentralA.pdf.

[54] The trade capacity building committee will build on work done during the negotiations to enhance partnerships with international institutions (Inter-American Development Bank, World Bank, Organization of American States, ECLAC, and the Central American Bank for Economic Integration), non-governmental organizations and the private sector.

[55] Republic of Nicaragua, *Operational Program for the National Action Plan for Institutional Strengthening*. December 2002, http://www.ustr.gov/regions/whemisphere/camerica/2002-nicaragua-tcb.pdf.

[56] Within 90 days after the President signs the Agreement, the US International Trade Commission will submit a report to the President and Congress assessing the likely impact of the FTA on the US economy and on specific industry sectors and interests of consumers. The President will then submit to Congress a copy of the final legal text of the Agreement, a draft implementing bill, a statement of any administrative action necessary to implement the Agreement, and various other documents required for the implementing legislation to be considered under Trade Promotion Authority procedures.;http://www.fas.usda.gov/info/factsheets/cafta.html

Commentaries

Chapter 2

1. Commentaries on article 1: The relationship between MEAs and WTO rules

Alan Oxley,

International Trade Strategies Pty Ltd, Melbourne, Australia (The author is a former ambassador of Australia to the WTO, a former Chairman of the GATT Contracting Parties, and was a panellist in the second tuna/dolphin GATT case).

The UNCTAD report clearly lays out the issues that need to be addressed when considering the problem of conflict between the provisions of the World Trade Organization (WTO) and multilateral environment agreements (MEAs).

Nobody disagrees that the conflict is undesirable. The question is what to do about it. No successful solution to any problem can be addressed unless the nature of the problem is clear and the cause is understood.

What is the cause of the conflict?

The conflict exists because when governments negotiate MEAs they include measures which sanction trade coercion and create unqualified rights to restrict trade. This generates problems because the WTO, to which the same Governments subscribe, does not permit such use of trade measures.

The issue is fundamental. The WTO agreements respect the principle of national sovereignty. Members of WTO agreements can suspend trade privileges among themselves, but only on terms which all Parties have accepted.

This problem has arisen not because of changes in WTO rules, but because of the introduction into MEAs of measures which conflict with WTO provisions.

Some MEAs oblige members not to trade with countries that are not Party to the Agreement (or permit trade if non-Parties adopt measures similar to those in the Agreement). This is coercion. The right of countries not to adhere to international agreements is transgressed: their national sovereignty is disregarded. One agreement also provides unqualified rights to restrict trade. The WTO generally does not permit that.

It is a relatively new development to make coercion against non-Parties to conventions a norm. Countries have negotiated such agreements in the past. They plainly contravene the broad principle in the UN Charter that national sovereignty should be respected and in that respect serve as exceptions to the preferred norms in international law.

In the last two decades, a strong case has been made that trade coercion for environmental purposes should not be treated as an exception but as a new norm. The European Union has made clear that it would like a broad right to leverage access to markets, on condition that environmental standards, to be created in the WTO, are adopted.

A narrow right was implicitly established at the 1992 Rio Earth Summit, which set out principles on trade and environment. It stipulated that provisions of MEAs and trade agreements should be mutually supportive, national sovereignty should be respected and trade sanctions should be avoided, but when they were to be used, they should be last resort and subject to conditions that restrict damage to trade.

The fact that the principles were adopted evidently reflected recognition that there was a problem of conflict between provisions of MEAs and multilateral trade rules. It is likely in retrospect that negotiation of the Convention on International Trade in Endangered Species (CITES) and the Basel Convention (BC), both of which have trade coercive measures, drew attention to the problem.

While Governments adopted these principles at Rio, their environment officials subsequently disregarded them, negotiating a Protocol to the BC banning trade among Parties (which has still not been ratified — so perhaps Governments have had second thoughts), negotiating discriminatory trade measures in the Persistent Organic Pollutants (POPs) Convention and including measures in the Cartegena Protocol, which were decidedly unsupportive of the WTO (it has measures stipulating that Parties have the right to restrict imports in the absence of scientific justification). This prospectively undermines the operation of provisions that enable Parties to restrict imports, which are deemed a threat to health and safety or which fail to comply with technical standards: WTO Members are generally required to base such measures on scientific principles and processes of risk assessment.

None of the proponents have justified the trade provisions in these MEAs as "last resort" measures or have assessed their consistency against the Rio test of "mutual supportiveness".[1]

Whereas the negotiators may have unwittingly created provisions in MEAs that conflicted with the General Agreement on Tariffs and Trade (GATT)/WTO provisions before Rio (and it is widely conceded that lack of coordination between trade and environment ministries has been a problem in most Governments), it cannot be said that negotiation of further provisions, which conflicted with the WTO after Rio, was unwittingly.[2]

Why has the conflict arisen?

Why has this happened? It is important to understand this question if we want a solution which will be effective. Environment officials evidently want to use the trade tools that these agreements create. They want the right to use the threat of trade sanctions to coerce other countries to change environment policies. And they want the right to have broad executive discretion to restrict trade rather than be bound to demonstrating scientific justification for restrictions to protect health and safety.

The interest in using these tools is part of a broader desire to use trade leverage to force other countries to change environment policies. The European Union has made clear it wants to leverage compliance with internal EU environment standards against access to its markets. Unless it has that right it can not impose eco-labels, which verify

that importing countries have done so, without breaching WTO rules. It will also have trouble implementing intra-EU environmental regulations, which will make many industries in the European Union less competitive.

Does the WTO inhibit protection of the environment?

Are there deficiencies in WTO regimes which inhibit action by States and international action to protect the environment? The WTO permits members to restrict imports if they threaten the health and safety of people or flora and fauna. There are conditions on those rights. In general terms, they should reflect recognized international standards or be based on science and underpinned with processes of risk assessment. The WTO also permits technical standards to be imposed to protect the environment, with similar conditions.

The WTO only inhibits efforts to protect the environment if the measures do not respect national sovereignty or if they expressly authorize trade restrictions in the absence of scientific justification. The WTO itself does not rule them out of order, but members would have rights to challenge such measures under WTO disputes procedures. That is why the European Union wants MEAs exempted from such challenges.

Are trade coercion and unlimited discretion to restrict trade desirable?

Since trade coercion and unlimited discretion to restrict trade (in the absence of scientific justification) are undesirable, the onus must surely be on those who propose them to justify their use.

There are long-standing and mainstream alternatives to using such trade measures. The first and most straightforward is to use multilateral agreements to set agreed standards and measures and oblige each Party to implement them in national law. In this way Governments act consensually and collaboratively to advance the collective good by taking common action within their own jurisdictions. No coercion is used. This is how most international conventions work.

It is by no means clear-cut that trade coercion is an effective tool for improving the environment. There is significant evidence that it is ineffective. The most effective controls on environmental pollution are those that apply directly to the source of pollution. National restraints on pollution are far more effective than the indirect threat of a disruption to trade.

Some may argue that protection of the environment is sufficiently important that the rights to trade should be conditioned by obligations to meet environmental standards. Two very fundamental judgements are implicit. First, the importing country has the right to determine the environmental standard that the exporting country should be applying. Second, the balance of interests between environmental impacts and impact on trade is in favour of the environment.

There are potentially grave consequences of legitimizing use of trade sanctions to advance non-trade goals, especially for smaller economies. The multilateral trading system has demonstrated unequivocally its effectiveness in supporting growth. It does this because it prevents Governments from playing politics with trade. This creates a

very basic protection for small economies. Large economies are restricted in how they can use their economic might to pressure small countries through trade.

The multilateral trading system also protects the capacity of members to utilize their comparative economic advantage for national development. Giving large economies the right to restrict trade, unless Parties comply with their preferred non-trade policies, diminishes the freedom of WTO Members to utilize their comparative advantage. The effect of large economies having the right to impose their labour standards on developing economies is obvious. The economic impact of allowing a comparable right with environment policies could be similar.

Addressing the problem

Most of the solutions to the problem of conflict between provisions of MEAs and the WTO focus on how to manage conflicts of obligation. Most are solutions to address the consequence of the conflict, not the cause of the conflict. No effective solution to the problem can be found until the cause is addressed.

If all Governments agreed with the European Union and the sorts of rights it wanted to restrict trade were what they also wanted, the problem would disappear. But they do not. The overwhelming majority of WTO members do not favour legitimization of trade coercion to protect the environment.

There are alternative means to take international action to address environmental problems and these are as available to the European Union as to anyone else. It would seem obvious that these alternatives should be assessed before Governments commit themselves to using coercion.

An assessment mechanism

When new measures for trade coercion or new rights to restrict trade are proposed for MEAs in UNEP or in Conferences of Parties, three fundamental and formal assessments should be made before they are adopted.

- The mutual respect assessment

Provisions to use trade coercion should be assessed against the availability of alternative multilateral approaches, which respect national sovereignty.

- The environmental effectiveness assessment

The environmental effectiveness of using trade coercion or creating unlimited discretion to address specific environmental measures should be assessed against the environmental effectiveness of alternative measures, which mandate national action.

- The economic impact assessment

The economic impact of proposals to use trade measures in environmental agreements should be assessed, first for the specific impact on the trade and economic interests of Parties and second for the impact on the effectiveness of the WTO. Finally, each Government should undertake a national assessment of the overall balance of benefit of the options before deciding to support inclusion of trade measures in MEAs.

❷ **Pierre Portas**

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Preamble

The world's most successful companies have in common profitability, the highest return on assets and the largest increases in profits. Countries' economic and corporate development reports provide a clear intelligence service and review to fulfil the reader's expectations; they provide full economic coverage and financial analysis, a company profile and market data. Anyone in business can understand. From school to business activity, the path is well laid out, in an orderly and understandable manner. Usually, a company executive will understand another company executive. Contrary to this, there are many voices on environmental issues because of their diverse characteristics and the existence of several MEAs covering specific domains.

Globalization of economy and finance is meant to provide society with those things needed or desired. However, euphoria over globalization is being challenged by its consequences; environmental degradation continues and is aggravated by the way we produce and consume. It is in this context that one needs to reflect on the relationship between the multilateral and environmental trade systems.

Different logics

The article on trade measures in MEAs is coherent, logical, well documented and articulate. It is difficult not to share some of the concluding remarks, unless one sets aside the doctrine underlying the paper. Without defining what a trade measure is, in the context of WTO, one argues that the BC uses such measures. De facto and derived from this basic principle, the MEA in question needs to ascertain the appropriateness of its trade measures with regard to international rules governing trade.

The following two examples show that different logic could be considered. Measuring impacts of the implementation of the BC on trade requires the development of methodologies that can make sense of complexity. Indeed, the BC interacts with all sectors of society; it encompasses a social, economic and environmental dimension. No one is immune from the potential danger posed by hazardous or other wastes and everyone generates wastes. A typology of defined specific trade obligations (STOs) (from the point of view of WTO) in the BC and an analysis of their impacts on trade would be reductive. Also, if one wants to increase the compatibility of an MEA with WTO rules, then these WTO rules should contribute to environmental protection, otherwise the MEA may fail to achieve its purpose. In addition, one can argue that a distortion in trade flows may be the result of macro-economic choices rather than originating in the so-called trade measures of an MEA. What the implementation of the MEA may do is to reveal or intensify an existing trade tension. Furthermore, in the case of the BC, the uncertainties the article refers to are due to the complexity of the materials covered by the Convention and not because Parties are not capable of clarity. In addition, the diversity of national legislations implementing the BC and national waste management policies adds to this complexity.

The BC was negotiated in the 1980s, adopted in 1989 and entered into force in 1992. It represents a solid foundation for environmental protection, a stronghold for those concerned by or vulnerable to hazardous and other wastes; it is like an island amidst an

ocean of dangers, insecurity and uncertainties. Ironically, the BC exists because of unacceptable trade and business practices in hazardous wastes, known at one time as "imperialistic garbage". These publicized unscrupulous practices prompted Governments to share their common commitment to bring a halt to this trend and control in a transparent way the export and import of hazardous wastes worldwide. Today, questions are being posed as to whether this architecture is trade-compatible. The primary purpose of the BC was to make available a universal instrument with which to forge international cooperation for a shared set of long-term environmental objectives for the benefit of all countries.

In the BC, the control of the transboundary movement of hazardous and other waste is organized to protect the environment. Parties have obligations to take all the necessary steps to ensure that the wastes subject to transboundary movements are managed in a way that does not endanger the life of people or harm the environment. Therefore, the overall and primary objective of the control system is the protection of human health and the environment. In pursuing such cardinal objectives, the rules of the control system also apply to the trade regime.

A changing world

Seeking mutual understanding is essential. What we want is to be mutually intelligible. You need strong MEAs to face up to the undesirable effects of consumer societies dominated by materialism. MEAs are vivid examples of shared responsibility for the safeguard of the environment worldwide. Today, 158 Parties have accepted this shared responsibility in the BC. The BC calls for continuous improvement in the management of hazardous and other wastes and for the effective minimization of their generation nationally and globally. The Convention is prepared to face changing patterns of development; it is designed to do this. Once again, discussion on trade measures in MEAs should be seen in this evolving context, leaving to one side a theoretical dialectic and focus on how MEAs are applied in practice. Critical to this approach in regard to the BC is the gradual shift in policy from a strong focus on regulation to more market-driven opportunities where certain wastes are perceived as potential resources and where the creation of new markets for wastes is taking place; words such as moving to a recycling economy or recycling society are being used by some Governments. In this regard the BC should provide a framework to guide or accompany such a shift in policy in a way that protects human health and the environment.

Developing country perspective

The spirit, intent and purpose of the BC is to protect, in particular, the State of import from wastes it does not want. The reason behind this is illustrated by the fact that developing countries are still the most vulnerable to dumping of hazardous or other wastes. Concurrently, the same countries are moving towards industrialization, which basically has two effects. On the one hand, the need for secondary raw materials is growing, sometimes rapidly; and, on the other hand, the domestic generation of hazardous and other wastes is increasing, putting more burden on their capacity to manage these wastes in an environmentally sound way.

The toxic heritage that has gradually been uncovered in developed countries over the last two decades should serve as a strong warning to those countries currently building such heritage. Indeed, the costs of cleaning up contaminated sites, for instance, are

colossal and may impact negatively on socio-economic development, whereby improper management of wastes generated can affect health and the environment. Dangerous chemicals in wastes can find their way into the feed and food chain. Such a situation is particularly dramatic when contaminated sites are located near or in poor community areas. At the same time, waste generation is increasing worldwide and every year new complex chemical molecules are being introduced into the market without any knowledge about how best to dispose of them. In short, the current trends in production and consumption may aggravate an already critical situation in regard to the world capacity to manage wastes, whether hazardous or not, in such a way as to protect human health and the environment in the short to long term. As one can see, it is both a matter of priority and a societal choice.

Concluding remarks

It is legitimate and necessary to monitor the implementation of the environmental and multilateral trade systems and review, as required, the rules that govern them. This would guarantee the possibility for both systems to keep pace with development or scientific and technological changes, while being capable of achieving their respective aims. Such exploration would require an analysis, based on experience, for the social, health, environmental and economic implications of policy choices over the short- to long-term period. And, in this regard, one should not lose sight of the fact that the time frame for harvesting the fruits of environmental protection may often differ substantially from the benefits to be gained from trade. The challenge is to anticipate such implications and prevent undesirable effects and their replication from occurring. To do this, a predictable, dynamic or evolving international legal system for the protection of the environment and for trade that contains as few contradictions as possible is crucial. Can this be achieved? The current process of interaction launched by the WTO with MEAs is not satisfactory and leaves progress for mutual supportiveness of the two regimes at a distance.

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According to paragraph 31(i) of the WTO's Doha Ministerial Declaration (DMD) adopted in 2001, WTO Members have been negotiating to clarify the relationship between STOs in MEAs and WTO rules. Dr. Hoffmann's paper sets out to facilitate the negotiation required in paragraph 31(i) of the Declaration. Since he is with the UNCTAD secretariat, his paper accordingly has a particular perspective for developing countries.

Dr. Hoffmann's paper sketches out the specific objectives of developing countries in this negotiation and also analyses three MEAs with STOs. These are the Montreal Protocol (MP), CITES and the BC. The reason why these three MEAs are particularly analysed is that they have a range of STOs and that they are accordingly key MEAs for the negotiation. Several WTO Members of the Committee on Trade and Environment (CTE) happened to propose that STOs in these MEAs should be further analyzed during the negotiations in 2003.

The current DMD-mandated negotiations are being held within the WTO, and thus the focus is on the innovations to accommodate environmental objectives or legitimacies within it. Most WTO Members and the experts concerned are concentrating on how and what to do in the WTO. However, one of the novel and practical approaches in Dr. Hoffmann's paper focuses primarily on international cooperation not within the WTO but within the framework of MEAs. His paper is ambitious to propose *an initiative within the framework of MEAs* for developing countries.

Why does Dr. Hoffmann look at the MEAs rather than the WTO? As was clearly mentioned, certain MEAs with trade measures have multiple objectives. And these objectives may not be best met by trade measures only. For example, even the BC has objectives not only to minimize transboundary movements of hazardous wastes but also to avoid and reduce waste at the point of generation. The former objective relating to trade may certainly be met by trade measures, but the latter may not be. Thus, the problems of MEAs, whose primary objective may not be trade-related, should be resolved mainly within the framework of MEAs.

In the course of finding an initiative within the framework of MEAs, one of the main concerns raised in Dr. Hoffmann's paper was the economic and social difficulty of developing countries in meeting the objectives of MEAs. The reason why developing countries do not comply with MEAs is said to be a lack of compliance capacity, not a lack of political will. The capacity would include an institutional, technical and financial one. It was rightly pointed out that due to the limited adjustment capacities of developing countries they might not be able to afford the costs. Accordingly, developing countries are bound to fail to comply with MEAs.

Again trade measures are only part of the measures to meet the objectives of MEAs. In addition, there are supportive measures such as technical and financial assistance as well as non-trade measures such as information requirements. Dr. Hoffmann's paper seems to emphasize the importance of supportive or positive measures from a developing country perspective. Positive measures, though often subject to misinterpretations, may include technical assistance and capacity building, and financial assistance to help meet the costs in achieving the goals set out in MEAs. The discussion and negotiation of trade measures only may not be a proper approach, especially for developing countries. In other words, there should be a balance between trade measures and positive measures within the framework of MEAs.

In practice, most positive measures cannot be used as required owing to a lack of funding and their voluntary nature, except for the Multilateral Fund of the MP. Inadequate funding certainly prevents the implementation of MEAs, including the implementation-related support for developing countries. Dr. Hoffmann suggests negotiated agreement for the principle of reciprocity between developing countries and developed countries in the framework of MEAs. Thus, while developing countries should comply with MEAs, developed countries should comply with commitments on positive measures. In this respect, the MP, the Convention on Biodiversity and UNFCCC have strict reciprocity so that developing countries are required to implement obligations in return for financial cooperation and technology transfer by developed countries. Among them, however, the MP is the only MEA with trade measures which fixes firmly the reciprocity principle.

Recognizing that positive measures have not always been effectively implemented, Dr. Hoffmann argues that innovative approaches to positive measures may be politically attractive in the light of their potential to reduce the costs of achieving the environmen-

tal objectives of an MEA. Innovative approaches are said to focus on instruments or mechanisms addressing specific interests and concerns of Parties or stakeholders, making creative use of market-based policy tools and harnessing new sources of financing for positive measures. They would include such measures as partnership arrangements for funding and technology transfer, multi-stakeholder and integrated approaches, or tradable emission permits to promote the involvement of the private sector and civil society in achieving the objectives of MEAs.

As a matter of fact, several MEAs with trade measures recognize the existence of compliance problems and costs for developing countries. Certain positive measures have been incorporated to reduce such costs. Dr. Hoffmann suggests that developing countries should understand their needs and capacities for the negotiation of conditions including positive measures, which enable them to fully participate in MEAs and agree to the use of trade measures. This should be clearly understood by developing countries in MEA and WTO negotiations.

Another difficulty with positive measures is that compliance costs may differ widely among developing countries. Thus, the effects and adjustment costs of trade measures would depend on the stage of development, trade intensities of countries and the relative weight of relevant sectors in their economy. The resulting issues to resolve are how to share the burden and achieve equity among developing countries. According to Dr. Hoffmann, distributional issues are the fundamental origin of most conflicts in defining the burden sharing of MEA obligations. This is why they should be further deliberated.

The WTO and the frameworks of MEAs are international regimes established and driven by member countries. As a matter of fact, the WTO General Council should make appropriate arrangements for effective cooperation with other intergovernmental organizations that have responsibilities related to those of the WTO. Certain MEAs must be related to such intergovernmental organizations. If any differences or conflicts arise between those international agreements on trade and environment, they should and could be settled only by the Member countries. But international cooperation is not enough. In this sense, as Dr. Hoffmann indicates, the coordination of policies between trade and environment officials at the national level should be encouraged. These officials often speak with different voices, depending on their positions. Trade officials attending WTO meetings see the world from a trade perspective.

On the other hand, environmental officials attending MEA meetings see the world from an environmental perspective. The wider the gap between trade and environmental officials in a country, the wider the gap between the WTO and the MEAs. In other words, there is a need for cooperative thinking and acting on the part of various national-level agencies and departments, as a prerequisite for more coherent international policy-making. Those different officials working for different departments in the same country should make appropriate arrangements for their effective cooperation before the country conducts negotiations with other countries.

On the other hand, as Dr. Hoffmann indicates, multilateral measures within an MEA may, from an economic perspective, reduce unnecessary trade effects by harmonizing the basket of instruments, thus preventing a proliferation of different national rules. This is true, but another concern is a proliferation of different international rules. Those rules of MEAs, concerning various aspects of the environment, could overlap with each other in certain areas. Thus, multilateral measures within the framework of MEAs should also reduce unnecessary trade effects. If the global protection of the environment is one of the prime objectives of the world in this century, new MEAs are expected to be negoti-

ated and concluded. Then, it is probable that different MEAs will govern the same or similar activities relating to a specific environmental area. Even before conflicts between WTO Agreements and MEAs or between trade problems and environmental ones arise, there might be those between such MEAs. As a matter of fact, this kind of situation was not new in the WTO/GATT system. After the Tokyo Round, there were some side agreements such as the Anti-dumping Code, which were different from the rules in the GATT. Thus there were at least three different systems of rules among GATT contracting Parties — between GATT contracting Parties, which were Parties to a side agreement (applying the side agreement), between GATT contracting Parties, which did not adopt a side agreement (applying the GATT), and between GATT contracting Parties, which were Parties to a side agreement and not (applying the GATT). This kind of compartmentalization of a system of rules was regarded as ill-conceived from a legal perspective. Thus, the Uruguay Round succeeded in making the WTO system unified for all the Members with a few exceptions of plurilateral trade agreements. It would be the same with MEAs. In this respect, Dr. Hoffmann's main theme of an initiative within the frameworks of MEAs is clearly to be noted and worth pursuing.

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At the last minute of a lengthy and complicated negotiating process that took place at Qatar, trade ministers decided to launch negotiations aimed at clarifying the relationship between existing WTO rules and MEAs with trade measures as part of the so-called Doha Development Agenda. It is said that paragraph 31 was the price that the *demandeurs* of the agricultural negotiations, namely the United States and the Cairns Group members, chose to pay in exchange for acceptance by the European Communities of the specific text launching the agricultural negotiations in paragraph 13 of the DMD. It is therefore not a coincidence that both paragraphs 13 and 31 of the DMD are the only places of such Declaration where the phrase "without prejudging their outcome" appears, whatever that may mean in the context of a single undertaking.

Nevertheless, it should be noted that the link between the environment and trade in agricultural products seems to extend far beyond this trade-off at Doha. Indeed, one of the underlying risks that many WTO Members perceive, and particularly those exporting agricultural goods, is the potential misuse of the MEAs either to undermine trade concessions or to justify disguised forms of protectionism. In this regard, justifiably or not, the erosion of the principles contained in the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) appears high on the list of concerns. This concern is even explicitly addressed under paragraph 32 of the DMD, where it is mandated that these negotiations "*shall not add to or diminish the rights and obligations of Members under existing WTO agreements, in particular the Agreement on the Application of Sanitary and Phytosanitary Measures*". The Cartagena Protocol on Biosafety and its precautionary approach are the main cause of these fears.

It is interesting to note that the issue does not seem to be whether the MEAs are more important than the multilateral trading rules, or environmental agreements can impose trade-restrictive measures in a WTO-consistent manner. Rather, at issue is whether the MEAs could constitute the new generation of unjustified trade barriers of the future and, as a consequence, a potential obstacle to the sustainable development of many countries. This is particularly important for those MEAs that have multiple objectives that go far

beyond the protection of the environment, such as consumer protection and human, animal or plant health, and which are currently regulated under WTO rules.

The cryptic language setting up the mandate of the Special Session of the Committee on Trade and Environment (CTESS) is another by-product of the Doha bargaining process, and it is nowhere more obscure than in paragraph 31 (i) where trade ministers agreed on negotiations on "*the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs*)". Negotiators have spent several meetings at Geneva trying to sort through this collection of vague terms, which seems to be further convoluted by the lack of expertise of many Members on the subject. Although the importance of an adequate multilateral answer to this issue is self-evident, many developing countries are still struggling to identify their objectives in these negotiations. Indeed, there are many questions and very few answers.

In this context, it is refreshing to read the paper on "Specific trade obligations in multilateral agreements and their relationship with the rules of the multilateral trading system — A developing country perspective". The author addresses some of the relevant questions arising from the discussions that have taken place in the CTESS. Although there are many undefined issues in this negotiation, including the definition of the MEAs themselves, there seem to be five relevant questions that constitute the backbone of this discussion, many of which are addressed in the above-mentioned article.

The first and most obvious question is the definition of a "specific trade obligation" (STO). As the author clearly explains in his article, this has been one of the controversial issues in the discussions to date, particularly owing to the practice in some MEAs of including a palette of measures. Is there a "specific trade obligation" when the MEA sets a palette of measures from which the Member can chose? How specific does the measure need to be to fall under the mandate? These questions seem particularly difficult in those MEAs where an objective is set, but not the means to achieve it. The exchange of experiences concerning implementation of the provisions of the MEAs amongst the Members has been particularly useful in highlighting some of these issues.

The second question has to do with the definition of "as set out in MEAs". Some members argue that all decisions taken by the Conference of the Parties (COP) constitute binding obligations, whereas others argue that only the obligations specifically set out in the treaty language of the MEA, its annexes or its ratified amendments impose legally binding obligations. The importance of this question is not obvious at first glance. Given the existing structural disparities, accepting that all COP decisions could possibly establish binding STOs could be tantamount to accepting de facto that the decision-making process of the MEAs can be driven by very few — and usually developed — countries. Given the large number of MEAs and COP meetings that take place every year, and given that usually these decisions are taken by the majority of countries present at the meeting, it could be argued that the second interpretation better fits the needs of those countries that do not have the capacity to adequately participate and follow such processes. As the author explains in his article, it is widely accepted that an ideal preparation to participate in this type of meeting should include national policy coordination amongst all the relevant agencies, including the ministry of environment and the ministry of trade, where appropriate. However, experience has shown in other international forums where the meetings are held in a very dispersed manner, such as the Codex Alimentarius, that developing countries are rarely prepared, and sometimes not even capable of being physically present, to defend their interests in these meetings. The lack of resources and technical capacity are the usual causes for this situation.

The third relevant question has to do with the "relationship" issue. One can imagine a typology of at least three types of relationships between the MEAs and the WTO rules that could be described as follows:

The first type of relationship could be one mutually supportive, where the STO as set out in the MEA supports and reinforces a WTO rule. Not only is this hypothetical situation the ideal one, but also the type of relationship that should be encouraged by Members while negotiating new STOs in the context of the MEAs.

The second type of relationship could occur when the MEA sets a STO that, although partially addressing an issue governed by a WTO rule, allows for a Member to comply at the same time with both the multilateral trading system and the STO set out in the MEA — that is, a non-contradictory overlapping of obligations. For example, this could be the case when a MEA sets an obligation to perform some sort of "risk assessment" of a measure aimed at preserving the life of plants or animals, and it is possible for that Member to perform such an assessment, taking into account the applicable WTO rules and standards in that regard (most notably the SPS and/or Technical Barriers to Trade agreements). Logically speaking, there can be no contradiction when a Member can comply with both obligations at the same time.

Finally, there is a third hypothetical type of relationship where a Member cannot fulfil a STO as set out in a MEA without failing to comply with a WTO rule. It is this hypothetical contradictory relationship that is relevant in the context of the negotiations of paragraph 31 (i), because it is the only one that could generate tension between the multilateral trading system and the MEAs and undermine its mutual supportiveness.

The author does a good job in identifying potential sources of conflict in three specific MEAs (namely CITES, the MP and the BC), and highlights the positive role that "supportive measures" may play in alleviating the potential tension between both obligations. However, it is clear that much work remains to be done, particularly in the analysis of other MEAs.

After the theoretical and definitional aspects have been dealt with, the issues relating to the legal effects arise. This is, arguably, the most important part of the negotiations. It is precisely in these situations of contradiction and tension where the fourth relevant question arises. It has become widely accepted that GATT Article XX (General Exceptions), and particularly paragraphs (b) and (g), provides WTO Members with considerable leeway to protect the environment. However, any Member imposing a WTO-incompatible measure has the burden of proving that it does not constitute a "*disguised restriction on international trade*". Thus, the issue seems to be whether a STO as set out in an MEA that is in contradiction with a WTO rule should be presumed to be consistent with GATT Article XX and presumed not to constitute a disguised restriction on trade. Additionally, in the case of contradictory measures undertaken under paragraph (b) of GATT Article XX, it should also be determined whether it could be presumed to be "necessary" in the WTO dispute settlement sense. In legalistic terms, the issue is whether the burden of proof should be inverted. As trivial as it may seem, this is a critical element that could easily determine the outcome of a dispute.

One cannot ignore the fact that the issue of the burden of proof under Article XX has been the target of criticism amongst the environmental community, but it is also true that it is a highly sensitive issue amongst the trading community. It is therefore not surprising that some Members argue that the presumption should apply and that there should be an inversion of the burden of proof in these cases, a proposal that faces stiff opposition.

The proposing Members aim at having a common understanding or general agreement on this issue, which they consider to be of utmost importance for systemic reasons. On the other hand, other Members appear to prefer a case-by-case appraisal of the identified STOs, where some sort of list of "approved" STOs could be the end result (the so-called bottom-up approach). It is obvious that the expected final outcome has largely influenced the different procedural proposals by the Members, as described by the author in the section on post-Doha proposals.

It must be noted that the language of the Doha Declaration does not provide a clear-cut answer to the issue of whether an "authoritative interpretation" could fall under the mandate of the CTESS. In this regard, it is particularly important to recall paragraph 32, which states that "*[t]he outcome of this work … shall not add to or diminish the rights and obligations of Members under existing WTO agreements*". Whether there can be an inversion of the burden of proof without changing the balance of rights and obligations under Article XX has yet to be demonstrated by the *demandeurs* of this issue.

Finally, it is to be noted that paragraph 31(i) also states that the "*negotiations shall be limited in scope to the applicability of such existing WTO rules as among Parties to the MEA in question*" and that the "*negotiations shall not prejudice the WTO rights of any Member that is not a Party to the MEA in question*". The Party to non-Party nexus, as the author calls it in his article, is the fifth relevant question. In this regard, it should be noted that other elements of the *chapeau* of GATT Article XX could be important to this discussion, most notably the obligation of the Members not to impose a measure that could constitute an "*arbitrary or unjustifiable discrimination between countries where the same conditions prevail*". Although the author downplays the importance of this question owing to the increased participation of Members in the MEAs, one should not underestimate the influence that this question could exert in the future participation of countries in MEAs yet to be negotiated. One could even argue that the current state of play provides an incentive not to ratify any new MEAs, at least not until this relationship has been clarified. Finally, as mentioned before, the issue of STOs assumed under COP decisions could also be largely influenced by this factor. This is an issue that will probably arise only at a very late stage in the negotiations.

The importance of achieving an adequate and balanced result in this negotiation cannot be overemphasized. At stake is not only the maintenance of necessary international tools to protect the environment, but also the means to stop the potential misuse of the MEAs to create unjustified barriers to trade.

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Ulrich Hoffmann's paper is a very welcome contribution to the ongoing debate on the appropriate relationship between MEAs with trade measures and the multilateral trading system overseen by the WTO. Many of its conclusions about the appropriate design of trade measures (in particular, the need for clarity and flexibility) and about their value in the context of other supportive measures in MEAs, including financial and technological support, should be widely accepted.

The paper does, however, underplay a number of important factors that help us understand why trade measures exist in so many important MEAs[5] and why in practice there is little alternative to them.

Political will

The paper takes the general approach that non-compliance by MEA Parties is generally the result of "lack of compliance capacity (i.e. weak institutional, technical and managerial capacities) rather than lack of political will". Similarly, "one can argue that concerned developing countries are hardly ever failing to comply with the Convention [CITES] because of unwillingness. Rather a lack of capacity and resources is often the pivotal cause". In many, perhaps most, cases I believe that this is the correct conclusion, underlining the need for adequate capacity-building mechanisms in MEAs, such as the MP's Multilateral Fund. However, an analysis of the record indicates that failure of political will *is* an important component in several cases of non-compliance, and the paper does not suggest a means to deal with it.

If one looks at examples of the enforcement of CITES, for instance, it can be seen that at the very minimum in the cases of Bolivia, Paraguay, Japan, United Arab Emirates (on two occasions), Thailand, Italy, Greece, Indonesia, the Democratic Republic of the Congo and Singapore, the problems have stemmed mainly or entirely from an unwillingness to implement CITES controls, not a lack of capacity.[6]

In Bolivia and Paraguay in the late 1970s, for example, the military was involved in smuggling of endangered species, often combining it with cocaine, and an individual in the Bolivian CITES Management Authority collaborated with traders to print blank export permits; action was finally taken under CITES after complaints by other South American countries about the impact of the illegal trade on their own wildlife populations. In the Democratic Republic of the Congo in the late 1990s, export permits were being altered on a systematic basis to inflate substantially the volume of trade authorized (in one case, permits for two birds were altered and used to export 1000 birds). In Italy in 1989, officials from the ministry responsible for issuing import permits failed to attend a training seminar organized by the CITES Secretariat, and on one occasion four chimpanzees (listed in Appendix I of CITES) were exported from the country in full view of customs officials, despite border posts having been informed that the animals should not be allowed to leave the country.

In all of the countries listed above, trade measures were applied successfully to bring the country back into compliance. In no case did the country concerned claim that lack of capacity was the reason for non-compliance — indeed, in many cases, offers of assistance with training, regulatory reform or implementation (e.g. in the printing of tamper-proof certificates) were not taken up, and in other cases, for example Japan, Italy and Greece, lack of capacity could clearly not have been a justification. It is difficult to see what mechanism other than trade measures could have had this result.

In the case of the MP, trade measures were designed primarily for use against non-Parties, as an incentive for membership and a barrier against industrial migration to escape the controls. Again the record shows that a few countries contemplated staying outside the Protocol, manufacturing their own CFCs and other ozone-depleting substances (and therefore contributing to the transboundary impacts of ozone depletion) and exporting products containing them into countries which were part of the regime; the Republic of Korea is the most often cited example.[7] Once again it is difficult to think

of any alternative to trade measures; the Republic of Korea, as a significant consumer of CFCs, would not have been eligible for Multilateral Fund assistance in any case (and has not received any, since it finally acceded in 1992).

In dealing with cases of non-compliance in recent years — mainly amongst transition economies and, more recently, in some developing countries — decisions of the meetings of the Parties to the MP setting out agreed compliance action plans for the countries in question have almost invariably included the threat of trade measures[8] should the countries not meet their agreed benchmarks for returning to compliance.

In citing these examples at some length, I am not trying to imply that MEAs such as CITES and the MP suffer from repeated and deliberate attempts at non-compliance — I would accept, as Ulrich Hoffmann's paper argues, that *most* cases probably derive from a genuine lack of capacity. But self-evidently this is not true in *all* cases, and the paper does not suggest a solution for instances where offers of assistance with capacity building are either inappropriate or ineffective. The use, or at least the threat of use, of trade measures — ideally in combination with the provision of capacity-building assistance — is a necessary component of an effective non-compliance procedure for MEAs.

Countries are not single actors

The second factor to which the paper fails to pay adequate attention is the fact that countries are rarely single actors in international negotiations, or even in implementing domestic regulations.[9] The case of Italy's non-compliance with CITES illustrates what is probably a common problem: "In June 1992, following a mission to Italy, the Secretariat reported little progress, and recommended a suspension of trade in CITES specimens with Italy. Interestingly, this was supported by Italian civil servants, who had stated that the government would do nothing without trade restrictions being imposed".[10] A similar observation was made in a MP Implementation Committee meeting in 2002, when one developing country member observed that the identification of that country as being in non-compliance (with the accompanying potential for applying trade measures) would be valuable in attracting the attention of more senior colleagues at home.

It is unfortunately still the case that many countries, developed and developing alike, do not pay as much attention to environmental issues — including their obligations under MEAs they have signed — as one would like. Trade measures, or the threat of them, may often serve to raise the profile of the issue and ensure that the country fulfils its international obligations. The other aspect of this argument is the familiar problem of a lack of policy coherence, again widespread amongst developed and developing countries alike. It is a common observation that in the cases of the BC and the Cartagena Protocol much of the pressure for the adoption of trade controls stemmed not from developed but from developing countries, many of which lacked an adequate regulatory or institutional capacity to handle imports of hazardous waste or genetically-modified products effectively. This represents a co-option of developed-country institutional capacity for developing country purposes — using trade controls at the point of export to exclude undesirable products from import.

This point is frequently overlooked, however, by many trade negotiators, who often seem to argue that any interference with trade is always unwelcome to developing countries. Given the complexity of the issues handled by modern Governments, and their inevitable tendency to overstretch, it is probably not surprising that different perspectives tend to be put forward by environment negotiators and by trade negotiators, but it is

not all that helpful to the debate at the international level, particularly where it is conducted without sufficient connection between the different communities concerned.

The value of trade measures

The paper's thorough analysis of the three MEAs most often the subject of discussions on trade measures — CITES, the MP and the BC — if anything supports the case that well-designed trade measures have a highly positive role to play in such agreements. All three regimes have displayed considerable flexibility in the design and implementation of trade measures, and the MP in particular illustrates the value of trade measures alongside effective capacity-building mechanisms. There is no question that CITES and the BC would benefit from much better financial mechanisms. Much of the paper's criticism focuses on the BC, probably rightly, although, in common with all MEAs, the Convention possesses the ability to evolve and modify its provisions in response to changing circumstances.

What the paper does not do is to explore whether there are any alternatives, reasonably available, to the trade measures. In our recent paper on the WTO–MEA relationship,[11] Kevin Gray and I analyse the reasons behind the adoption of trade measures, their effectiveness and the availability of alternatives. Our conclusions are that:

Trade measures in MEAs have become more common, and seem likely to continue to be so, as a logical reaction to the transboundary nature of environmental issues and patterns of economic activity. The increasing attention being paid to the problem of illegal trade provides another reason for employing trade measures.

In many instances, trade measures are the only realistic enforcement measure available to MEAs. They can bear a real cost (particularly where trade bans are used against non-Parties or non-complying Parties), and should not in general be adopted in isolation from other compliance instruments, such as financial and capacity-building assistance. Nevertheless, trade measures in MEAs can be an effective tool and should always be considered when the MEA is designed.

Our conclusions are supported by the OECD study published in 1999, which concluded that:[12] "in general, trade measures can be an appropriate policy measure to use … *inter alia:* (a) when the international community agrees to collectively tackle and manage international trade as a part of the environmental problem; (b) when trade controls are required to make regulatory systems comprehensive in their coverage; (c) to discourage free-riding which can often be a barrier to effective international cooperations; and (d) to ensure compliance with the MEA".[13]

The need for dialogue

The paper correctly identifies the need for real dialogue between trade and environmental regimes, a process which seems surprisingly difficult to achieve in any meaningful way, given the problems of national policy coherence mentioned above, the limited freedom of MEA and WTO secretariats, and institutional failure on the WTO side (granting observer status to MEA secretariats, even if it is achieved, is hardly a real dialogue).

I have my doubts whether the paper's suggestion about the CTE drawing up a list of problem MEA trade measures, and then bringing them to the attention of the MEAs

concerned, is quite right — a bilateral dialogue between CTE and MEA designed to discuss potential problems in the WTO agreements just as much as in the MEA would be more helpful — but the concept of shared discussion is clearly what is needed. UNCTAD, along with UNEP, should have an important and valuable role to play in this process, and also in designing capacity-building initiatives that can help national Governments to implement MEAs and the WTO agreements in a mutually supportive manner.

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Ulrich Hoffmann's paper presents a strong agenda for developing countries to pursue both in the context of the Doha Work Programme within the WTO and in future MEA negotiations. In this comment, I propose to address two key contextual elements: the current state of WTO law as it relates to MEAs and the new dynamic in MEA negotiations that sees developing countries play a strong role as "demandeurs" of global environmental management rules, including trade rules that help protect their environment. This will be followed by some thoughts on Dr. Hoffmann's proposed way forward in the Doha Work Programme.

Setting the legal context: The existing state of law on MEAs in WTO rules

There is often the impression of a battleground between trade agreements and MEAs, a battleground with no existing rules or defined approaches for resolving potential disputes between the obligations that States may take on. Neither of these impressions would, however, be true or accurate.

The basic presumption that States understand their international law obligations and do not take on further obligations that are in conflict with existing ones underlies the rules of international law relating to treaties.[14] In the event that this presumption cannot be maintained, the Vienna Convention on the Law of Treaties, a Convention which the Appellate Body (AB) of the WTO has referred to on too many occasions to mention, sets out additional rules to follow.

First, the Vienna Convention allows States to identify which obligations should prevail over others in the event of conflicts with other obligations that may arise from the text of an agreement they are negotiating.[15] This was not done in the WTO Agreements,[16] but it is an increasingly common feature of MEAs. MEA clauses that either require the primacy of trade law in the event of conflicts or that require mutually supportive interpretations aimed at preventing conflicting interpretations can be found in most recent conventions.[17] These provisions allow the Parties to establish their own hierarchy of obligations should a conflict arise. The WTO negotiators did not do so. In the absence of such a provision in an agreement, reliance shifts back to a number of technical rules in the Vienna Convention in an effort to determine which treaty obligations should prevail over another in the case of a potential conflict.

It is worth noting that to date, no trade law case that has directly or indirectly involved the substance of an MEA as part of the analysis has had to go this route. Indeed, what the AB has done when there is a potential relationship between an MEA and WTO law is establish a process for looking at the content of an MEA as an aid to analysing the interpretation and application of trade rules.[18] In doing so, the AB has made it clear that it is not per se bound by an MEA, but rather that the contents of an MEA gives a sound basis for examining whether trade disciplines may or may not be complied with in any given dispute. In short, the AB has responded to the WTO Singapore Ministerial Conference's call for trade and environment regimes be developed in a mutually supportive manner by acting in a pragmatic and rationally based fashion, beginning with the presumption of non-conflict in the Vienna Convention on the Law of Treaties.

The best-known instance of this approach is the so-called Shrimp-Turtle case, between India, Malaysia, Thailand and the Philippines as claimants and the United States as the defendant. The case, or rather series of cases,[19] involved a US prohibition on shrimp imports into the United States that were not certified as complying with US shrimp fishing standards. The details of the case are beyond the scope of this analysis. What is important here is that the AB used a regional agreement on preservation of sea turtles for the Atlantic and Caribbean basin countries as one basis for interpreting and applying the rules found in Article XX of the GATT, 1994.[20] Indeed, it went so far as to rule that it was appropriate to do so in the face of the objections of Malaysia.[21]

In essence, the AB used the regional MEA in a manner that is analogous to the role of an international standard.[22] When a WTO Member follows an international standard in its domestic measures, it is presumed to be consistent with its trade obligations. While the AB did not give the regional MEA such a legal presumption, it did suggest that following an MEA's terms was important evidence that a WTO Member would not be in breach of its trade rules. Whether a global MEA could be further analogized to an international standard in terms of receiving a presumption of trade law consistency when a specific measure is adopted pursuant to it has never been tested in the dispute settlement process.

Moreover, the AB took this approach without any apprehension that the complaining Members of the WTO were not Party to the treaty. In fact, the treaty in question had been negotiated and signed at that time, but was not even ratified by its signatory Parties. It also looked, in the course of its analysis, not just at what may be termed specific trade measures, but at a range of measures that Dr. Hoffmann would describe as positive measures, designed to improve the compliance potential of the developing countries that had negotiated the treaty. By using the regional convention, the AB gave itself a touchstone that assisted it in defining the appropriate balance in the dispute before it, between unilateral measures impacting on the trade of the developing countries in question, and the protection of the environment.

In short, the AB used the regional Convention to help develop its view of a mutually supportive trade and environment concept in the case before it. It went beyond the mandate now found in the Doha Work Programme in that it did so in the context of a Party and non-Party to the Convention, and beyond any STOs in the Convention. The Doha mandate is therefore but a small carve-out of the relationship between trade and environment agreements that the WTO has already found a constructive approach for dealing with.

As part of the legal context, it should also be understood that all environmental measures taken to implement an MEA today are fully subject to trade law. The fact that they

are taken to implement an MEA does not remove them from this trade law coverage. Thus, the recommendation of Dr. Hoffmann that developing countries advocate the introduction of some discipline for discretionary measures taken pursuant to an MEA may be redundant: such disciplines already in fact exist under the GATT, TBT Agreement, and so on. What else might be added to these just because the measure might be associated with an MEA? Should the rules be more "liberal" or more "constraining" because of this connection? In any event, this issue is outside the current mandate of paragraph 31(i) of Doha.

The changing policy context: Changing pressures to protect a fragile planet

The protection of the environment is often seen, especially in the trade policy community, as a developed country objective, which usually by design, has the developing world paying the economic price.[23] In some past circumstances, this has been the case: we are all aware that environmental protection has acted as a smokescreen in some cases for a national measure that is really intended as trade protectionism. The trade law system has a role to play in preventing such an abuse, while at the same time ensuring that legitimate measures to protect the environment are not struck down.

The negotiation of MEAs is different, however, from the enactment of domestic environmental measures that impact on trade. Several checks and balances exist in a multilateral negotiation that limit the role of protectionist interests in any one country, and promote a balance of benefits and costs. In this context, Dr. Hoffmann's call for improved analysis in the negotiation of trade measures in MEAs — and, one might add, in the negotiation of all environmental measures impacting on trade or other economic activity — is most appropriate. The better the analysis, the less the risk of intended or unintended negative impacts being visited disproportionately on developing countries, which may share little by way of contribution to the causes of the environmental problem. Developing appropriate criteria (science-based in so far as economic analysis can support a rigorous analysis) and processes to assist in this regard would be welcome. Equally, developing better tools and processes for the ongoing analysis of the effectiveness and implementation of existing agreements would be worthwhile. But such an effort cannot be undertaken by the WTO alone: only the agencies responsible for MEA negotiations can appropriately initiate such a process at the international organization level, as only they are responsible for their agreements and negotiations.

Significant agreement with Dr. Hoffmann on many of these points should not, however, create an assumption that the present author believes there are legal conflicts between trade law and trade measures (or measures with a trade impact) in MEAs. Indeed, Dr. Hoffmann highlights the likelihood that only the BC raises serious risks today of such a conclusion, a view that itself suggests that the need for more extensive reviews of this by the CTE during the present negotiations may be unnecessary. For my part, I would debate even that risk with him in a most vigorous way, more space permitting. The point here, however, is that the development of better tools to help negotiators and those charged with implementing MEAs to understand the impacts of their decisions and efforts is, in its own right, a good thing. It simply works to maximize benefits while minimizing the costs. To the extent that trade disciplines can help inform such tools, it is hard to find any principled grounds for denying such a role.

Where more context is required in order to grapple with the WTO/MEA relationship, however, is at the starting point: the demand for MEA negotiations in the first place. Here, the three or so decades since the start of modern international environmental law

have seen a very significant growth in the diversity of demands to address global environmental issues. While the ozone layer may have been a cause championed by developed countries, the impacts of a failure to respond would certainly have been felt by all countries. Climate change and the protection of biodiversity have also been defined by some as emanating from demands of the north, although certainly the impacts of climate change spawned a whole set of demands from the small island developing countries during the original climate negotiations from 1989 to1992, and the Kyoto Protocol negotiations from 1995 to1997. And climate-change-related impacts will fall most heavily on those with the least ability to adapt: the poor in developing countries.

Other MEA negotiations have unquestionably been at the demand of developing countries. The BC, and the ban amendment that may or may not enter into force in its current form, have been the result of demands from the developing countries that, quite rightly, felt abused by the dumping of hazardous wastes from developed countries in their territories. The measures adopted sought to end this practice and have largely done so. Other objectives, including the development of higher standards for waste treatment and reduced waste generation, remain work in progress. Similarly, the Rotterdam Convention on the trade of hazardous chemicals and pesticides was a long-standing demand of developing countries concerned that hazardous chemicals banned in their country of manufacture were being used and dumped in developing countries that did not have the internal capacity to regulate them properly. Perhaps most notoriously, and potentially of great economic relevance over the next decade, the Cartagena Protocol on Biosafety was negotiated as a demand of the south that was left unaddressed in the Biodiversity Convention negotiations of 1992 — to protect the biodiversity of the developing countries from imported genetically altered species. Although the Cartagena Protocol is often described as resulting from the "frankenfoods" concerns of European consumers, it is in fact a demand of the developing countries based on broader environmental and human economic and social concerns.[24] Not only does the Protocol set out a specific risk assessment process to be completed before any trade in genetically modified organisms, but it also includes a number of other positive, capacity-building measures in Dr. Hoffmann's terms, and sets out a specific rule for exporting countries or exporters to pay the costs of the risk assessment, which trade law otherwise requires importing states to absorb.

The main point here is that the historical conception of MEAs as bulwarks of developed country objectives is past history, if it was ever in fact accurate. In practical terms, this recognition means that tools must be conceived of today by developing countries in much the same way as developed countries — as tools that can help balance the achievement of environmental objectives with equity in the costs for achieving those benefits. Associated positive measures are undoubtedly one element here. But, fundamentally, the understanding that there is a developing country requirement for the pursuit of a balanced MEA/WTO relationship also needs to be clearly recognized.

The way forward under the Doha mandate

If these two broader issues add to the contextual underpinning for Dr. Hoffmann's paper, what relationship may they have in defining the way forward, the ultimate point of the main paper? The following comments and suggestions are offered.

One overall critique of Dr. Hoffmann's paper might be an overstated confluence of the WTO Doha mandate and his view of how to do a better job in MEA negotiations to ensure that trade and other measures are demonstrably effective without unduly compro-

mising the development interests of developing countries. In broad terms, the present author would agree with almost all of the propositions put forward by Dr. Hoffmann for a better articulation of MEA provisions, and a process for an effective review of them from time to time once they enter into force. Where I would respectfully disagree with the proposal in the paper, however, is on the role of the CTE/WTO in moving to that point.

The question, in essence, is whether the CTE, and by extension the WTO, should place itself in a position to police or review existing MEAs under the guise of the Doha mandate, or should make itself responsible for setting negotiating parameters or processes for future MEAs. Should the CTE be an agency that is made responsible for looking for potential legal conflicts between MEAs and WTO Agreements, or even more poignantly, for policy errors from a trade perspective in MEAs when these are not leading to actual conflicts with trade rules?

The appropriate response to concerns with certain elements of any given Convention, after it has been drafted or once it has entered into force, must be carefully considered before this becomes a basis for creating a broad policing or policy review role for the WTO. Nothing in international law, and certainly nothing in the WTO Agreements, has given the WTO a mandate to undertake any form of oversight role over other agreements. Moreover, nothing in the WTO Agreements requires that, in the event of conflict, the rules within these Agreements must prevail. The approach of the main paper, as I understand it, could essentially create this as a de facto state of affairs, taking the WTO beyond its legal mandate. Concerns in this regard are not alleviated by the idea of the MEA body then taking charge of developing a response, given the additional trade-based conditions Dr. Hoffmann then suggests for the response parameters.[25]

The scenario envisaged in the main paper also has an extended logical flow: the WTO pursues a review, recommends changes, the MEA body rejects these, and a basis for promoting trade litigation against an MEA has been created. While increasing the risk of a challenge does not mean it will succeed — and a reconfirmation by an MEA of the importance of a measure would be important in this context — the potential for generating such litigation should be carefully considered.

What alternatives might be considered? First, the conduct of the Doha negotiations should be understood as taking place within the absence of any supremacy clause in the WTO Agreements, the legal approach set up by the AB in the Shrimp-Turtle case and the fact that all environmental measures by a WTO Member with a trade impact are covered today by the WTO Agreements. It is important to understand this because the Doha negotiating mandate creates risks that the current state of affairs, which is principled, rational and potentially effective for a longer-term vision of promoting a mutually supportive context that reflects the absence of any supremacy clause in the WTO Agreements, can be significantly altered. In particular, care should be taken to ensure that no implications are developed for addressing the Party/non-Party and non-specific trade measure issues left out of the Doha mandate — issues that the AB has already established are not a bar to effective analysis of the obligations found in an MEA. Also, care has to be taken not to address the issues in such a way as to create a disincentive for States to join an MEA: a legal suggestion that non-Parties to an MEA may have greater trade rights and remedies than a Party could, create just such a disincentive.

Second, look at more cooperation between agencies, not policing. Here, the inability of the WTO to even make a simple decision to allow intergovernmental MEA bodies

into the negotiating room as observers during MEA-related negotiations continues to detract from the declared intent of the WTO to pursue a mutually supportive agenda.

Third, the focus should be on the MEAs and a process for negotiating trade-impacting measures in a more analytically appropriate way, including the bottom-up concerns expressed by Dr. Hoffmann. This would help prevent unintended negative impacts (not itself a ground for a measure to be found inconsistent with trade law), and allow for more deliberate distinctions between different developing countries. This second aspect would help facilitate additional positive measures, or at least a better targeting of them. There may well be a constructive role for the WTO to play in this process, but giving itself the mandate to take a lead role is not it.

Fourth, look for more effective review processes within the MEAs. Review processes in fact exist under specific provisions or under the general powers of the body responsible for the Convention. It is generally how they are used, rather than the absence of an available process, that is of concern. But this again is not a specific matter for the WTO to lead on.

Finally, in cases of disputes, the WTO can address the issue of who can interpret agreements. The WTO's Singapore Ministerial Conference already recommended that if there is a direct conflict between trade law and a measure to implement an MEA, this should be resolved first by recourse to the MEA dispute resolution process. Should a matter go to the WTO process, however, who should interpret the MEA? This issue arises directly from a decision of the AB that any WTO panel or the AB may interpret the provisions of an outside agreement on its own. While, ultimately, a panel or the AB itself must establish the law they will apply in a given case, it seems inherently reasonable that outside expertise be sought when areas outside the WTO Agreements are involved. This is already available under the WTO's Dispute Settlement Understanding and has been utilized on many occasions. Promoting this is something that the WTO can do under the Doha mandate as it helps address the issues it is based upon, while not altering the rights and obligations of the WTO Parties.

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The paper of Dr. Hoffmann is very well written and gives an in-depth overview of the subject. A few observations should, however, be made.

First, it is very important to mention that STOs mean trade measures that are explicitly provided for and mandatory under MEAs. They must not be arbitrarily interpreted or substituted for other measures. These measures are designed to achieve the objective of MEAs — that is, to protect and improve the global environment and/or natural resource management. STOs set out in the provisions and annexes of MEAs are the least disputable, because it is reasonable to regard amendments of MEAs and related decisions by the COPs as constituent parts of MEAs. However, given the various situations in which amendments and decisions were made, it is preferable that STOs contained therein be identified on a case-by-case basis. Also, developing countries should insist on clear defi-

nitions of STOs alongside the use of objective, science-based criteria for their application. This will be important for ensuring the effectiveness of the STOs in MEAs and avoiding the risk of such measures being regarded as arbitrary and/or unjustifiably discriminatory or as a disguised form of protectionism. The appropriate level of protection of the environment should be clearly defined, even when applying a precautionary approach, which should only be used in very special and well-defined situations.

Second, due attention should be paid in the further WTO negotiations to the definition of MEAs covered under paragraph 31(i) of the DMD. MEAs should have been negotiated under the auspices of the United Nations system. An MEA should have a substantial number of contracting parties, which also account for a majority of WTO Members. The agreement should be open for accession by relevant parties on the basis of terms applied to the original contracting parties of the agreement. These MEAs should also contain explicit trade measures, whose implementation has a significant trade impact.

Third, after establishing criteria for identifying MEAs and STOs, a "bottom-up" approach, as outlined in Dr. Hoffmann's article, should be followed.

Fourth, with reference to paragraph 31(i), paragraph 32 of the DMD highlights that negotiations "shall not add to or diminish the rights and obligations of Members under existing WTO agreements, in particular the SPS Agreement, nor alter the balance of these rights and obligations". Since the WTO and MEAs have equal international legal status, it is very important, but at the same time difficult, to deal with the Party to non-Party nexus, and to solve the conflicts between STOs stipulated in MEAs and WTO rules. The negotiations should aim at developing guidelines for dealing with the relationship between STOs in MEAs and WTO rules. These guidelines should be followed when the WTO or MEAs make amendments to their rules in the future and when the dispute settlement bodies of both WTO and MEAs deal with cases of related disputes. As outlined in the report of the CTE to the first Ministerial Conference of the WTO in Singapore in 1996, WTO members should attempt to resolve conflicts concerning the use of trade measures for environmental purposes through the dispute settlement mechanisms provided by the MEAs. The improvement of effective compliance and dispute settlement provisions in MEAs would encourage the settlement of these disputes in the context of the MEAs.

Finally, implementation of special and deferential treatment for developing countries is also very important for this subject. Developing countries need to stress that trade measures are generally an integral part of a package of measures. Supportive measures to be provided by developed countries should be made a mandatory requirement.

2. Commentaries on articles 2 and 3: Environmental goods and services

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Those helping to inform the current WTO negotiations on environmental goods and services could probably recite paragraph 31 (iii) Doha Development Agenda (DDA) from memory. But what WTO ministers had in mind when they agreed to its inclusion in the DDA is not self-evident from the text, and several interpretations are possible. Indeed, it is quite probable that the ministers wanted to leave open not only the scope but also the modalities and outcome of the negotiations. Alexey Vikhlyaev amply illuminates the entrance to most of the possible paths the negotiators may take; in this brief commentary I would like to explore one of those paths in detail.

The paragraph 31 (iii) instruction could be satisfied if, at the end of the market access discussions, some progress had been made in reducing tariffs on all non-agricultural goods and if environmental goods (however defined) faced tariff or non-tariff barriers that were *no higher* than those applied to other goods. Most readers of paragraph 31 (iii) assume, however, that the WTO ministers wanted barriers to trade in environmental goods to be lower than the average for other goods, and perhaps eliminated completely. Let us assume, for the sake of argument, that this was the intent of WTO ministers.

The question then arises: did they envisage simply giving a temporary boost to environmental goods, or establishing more permanent tariff margins? Surely they meant the former, since to think that they had in mind establishing permanent tariff margins for a particular sector, especially one as fuzzily defined as environmental goods, would imply a fundamental change in the objectives and principles of the WTO, and of the multilateral trading system. It would mean abandoning the (albeit elusive) goal of progressively reducing, *with a view to eventually eliminating*, tariffs on *all* goods. And it would engage WTO members in an unending process of deciding whether particular goods qualified as suitably "environmental" or not — a process that would involve much higher stakes if the designation of "environmental" made a permanent 5-10 per cent difference in the tariffs applied to a new type of good.

Of course, given the normal interval between multilateral trade talks, even "temporary" tariff margins could last for a decade or more. During that time, at least some of the goods that made it onto the agreed list, or lists, would become technologically obsolete, and some new goods would appear. WTO Members could decide to treat an agreed list of environmental goods as unchangeable, but that would be against precedent. Moreover, the pressure to revise the list can be expected to increase over time. As Alexey Vikhlyaev notes in his paper, probably half of the environmental goods that will be in use 10 to 15 years from now are not yet on the market, or may not even have yet been invented (OECD, 1996[27]). Bringing such goods into a sectoral initiative is not in itself difficult — it is being done under the Information Technology Agreement (ITA), for example — but it does require delegating that responsibility to an institution with the requisite technical expertise, or establishing a new one to do the job.

Obsolescence is certainly an issue for goods defined by their relative environmental performance, such as energy-efficient refrigerators. But it could also apply to some very specific goods that might initially be included on an agreed list because the technology itself was deemed to be environmentally preferable at the time. It is likely — in fact, virtually certain — that some of these "environmental" technologies may be found later to have some undesirable side effects.

Catalytic converters attached to automobile tail pipes, for example, were once described as a miracle technology. True, they proved highly effective in reducing the amount of volatile hydrocarbons, carbon monoxide and nitrogen oxides in automobile exhaust. But they also imposed a small energy penalty, decreasing fuel efficiency and thus increasing emissions of carbon dioxide. It was not until more than a decade after they were first introduced that researchers found that they also contribute to other forms of pollution, such as the dispersion of metals along roadways (Ely, Neal, Kulpa, Schneegurt, Seidler and Jain, 2001),[28] and emissions of nitrous oxide (N_2O), a potent greenhouse gas (Commission of the European Communities, 1998;[29] Wald, 1998).[30] Moreover, catalytic converters require specialized handling when they are disposed of, if their catalysts — platinum, palladium and rhodium — are to be recycled and not dispersed to the environment.

That is certainly not to say that catalytic converters, especially advanced three-way catalytic converters, do not remain, on balance, a class of technologies that can continue to help control pollution. But it does suggest, as one US EPA official is reported to have quipped, "[y]ou've got people trying to solve one problem and, as is not uncommon, they've created another" (Wald, 1998) and that therefore a technology considered "environmental" today may be regarded as less so in the future.

Does that mean that some goods may have to be "de-listed"? Probably not. Dropping a good from the product coverage of a tariff-reduction or elimination agreement would presumably be done in most cases for symbolic reasons only: once a tariff is bound, it cannot be raised to an earlier, higher value, except through procedures specified under Article XXVIII of the GATT. What we may very well end up with, then, is an ever-expanding list of environmental goods. That may be no bad thing, inasmuch as it reduces trade barriers on more and more industrial products.

Alexey Vikhlyaev makes an important related point connected with this problem in respect of developing countries, in observing that "second- and third-best solutions are often not an efficient and effective way of overcoming resource-management problems". While environmentalists in developed countries may hope that newly industrializing countries will leap over their developed country counterparts, and embrace the latest, cleanest, most energy-efficient goods, the reality is that in many, if not most cases, the industries and consumers in these countries will opt for goods that simply perform better environmentally than the goods they were using before: in a choice between cheap and cleaner and expensive and cleanest, cheap and cleaner is likely to win out.

That is what is so attractive about the notion of increasing the number of "entire plants" or systems covered by unique customs codes. As a recent OECD[31] study points out, creating product descriptors for entire plants or systems would keep the focus on function and circumvent the "limited shelf life" problem of environmental technologies, while reducing the uncertainty over classification and customs duties associated with constant technological change. It has been argued this would ensure that plants incorporating the latest technologies are not at risk of losing their tariff advantage. But, equally,

it would help ensure that "tried and true" technologies would also continue to benefit from any paragraph 31 (iii) initiative.

What all the above leads to is a conclusion that if the current round of WTO negotiations eventually leads to a separate deal on environmental goods and services, discussions about coverage and classification are likely to continue beyond the end of the round. That suggests that some institutional structure would need to be put in place to periodically review and update the list, and to deal with a host of highly technical issues. The time to start thinking of what that institutional structure might look like is sooner rather than later.

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Paragraph 15 of the DMD has established an indicative time table that marks a starting point in the negotiations on market access in services through the request-and-offer process. Since then, classification issues have gained in importance and have become a crucial issue in the negotiations. This is understandable. A classification of services sectors is used as a basis for national schedules of specific commitments. And although the General Agreement on Trade in Services (GATS) does not oblige Members to use any specific classification, which means that governments are free to choose any reference they prefer — the CPC, W/120 or any other — at the end of the negotiations any classification included in the schedule of commitments becomes legally binding.

Since the beginning of the negotiations, Members with commercial interest in particular sectors started meeting informally, in parallel with the bilateral and multilateral negotiations, with a view to having in-depth discussions on sector-specific classification proposals. The idea was that the discussions, and their results, would facilitate the negotiations on market access. The European Communities (EC), which have a strong commercial interest in environmental services, have played a leading role in the discussions, promoting their own classification proposal. These informal discussions have been a good opportunity for Members to explain in detail their positions, clarify and understand interpretations and express their concerns regarding this sensitive sector. In general, Members have reiterated their positions regarding the liberalization of environmental services.

The proposal of the EC is certainly the most ambitious one. It suggests the creation of seven environmental sub-sectors, instead of the current four, based on the various environmental media. The most controversial point is the section called "Water for human use and wastewater management", which includes two sub-sectors. The first one is a new sub-sector called "water collection, purification and distribution services, through mains, except steam and hot water". The second one is consistent with the current "sewage services" included in the W/120 classification.

Some other developed Members have made concrete requests regarding environmental services to a large number of countries, suggesting the use of their own classification proposals. Since the exchange of initial offers, a group of Members, mostly developed countries, have included in their offers new commitments on an environmen-

tal services sector, while others decided to reclassify the old ones using their own classification proposals.

These developments need to be analysed very carefully because of their possible implications for the legal certainty of the commitments made during the Uruguay Round. A large number of the Members, some developed and many developing countries, still have concerns about the positive and negative effects of liberalizing this sector. One way to help developing countries in this matter is to establish a framework that would pin the classification issues to concrete market access opportunities and existing trade barriers.

As far as developing countries are concerned, it is not clear how and under what conditions they could benefit from the liberalization of trade in environmental services under the GATS negotiations. It is well known that the sectors and sub-sectors of environmental services included in the W/120 or in the various classification proposals require a high level of investment and expertise. These are services that are provided mainly by developed countries. Some developing countries are interested in the sector because they have developed expertise in activities *related* to environmental services. It is therefore necessary for other Members to participate in the classification discussions and provide examples or ideas of areas and services of actual or potential export interest to them. Some Members argue for the development of a model list that could include some new services and activities specific to the environmental sector and could be used in market access negotiations. This is an interesting idea that needs to be considered in more detail.

Until now, discussion on classification has maintained a spotlight on "core" environmental services, leaving out the so-called conceptual services. However it is with the latter that developing countries could have export interests. Incidentally, in these sectors, services are generally provided through the temporary movement of natural persons.

There are other important issues that await further analysis. Developed and developing countries have doubts about the liberalization of some of the sub-sectors because of the legal complexities surrounding the concept of a public service. This is reflected in the uncertainties, grey zones and different interpretations that still exist regarding some provisions and definitions of the GATS, for example Articles I:3(c), VI:4, VIII and XIII. A thorough analysis of these complexities should precede, rather than follow, any further liberalization commitments.

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The Doha mandate covering environmental goods and services offers an opportunity to expand the availability and profile of green goods and services in global markets. As tariffs and other barriers to trade come down, so too do the relative prices of such goods and services. Net environmental benefits result from the offsetting of environmental benefits that green goods and services yield, compared with their non-green counter-

parts. The extent of those environmental benefits depends on the environmental product or service in question. It also hinges on two additional considerations, the first of which is the level of pre-existing tariffs and non-tariff barriers prior to liberalization. The deeper the price decrease (including action to change price raising subsidies), the higher the demand response, assuming quality, reliability and availability of environmental goods and services is addressed. The s consideration is the timing of the implementation of this agenda, compared with across-the-board liberalization and market access commitments identified throughout the Doha Development agenda.

The Doha agenda implies that liberalization of environmental goods and services should precede as across-the-board liberalization. If that is not the case, why then bother drawing special attention to green goods and services in the first place? Soon after the Doha ministerial meeting, many experts predicted an "early harvest" of action under this item. Early action is pivotal if the agenda is to yield meaningful environmental benefits, since early liberalization would reduce the price gap between environmental and non-environmental goods and services. Typically, the price premium for many environmental goods and services is 10 per cent. As price differences decline because of action by the WTO, consumer demand will increase, assuming that other factors that determine consumer preference — quality, availability and reliability of supply — are addressed elsewhere by suppliers.

After almost two years of discussions, some WTO Members now propose to flip the sequence of this agenda item. Rather than early action, they now suggest that Members should proceed with across-the-board liberalization, and then tackle any residual trade barriers that linger around green goods and services. Not only is such an approach minimalist, it also neutralizes the promise of price benefits in support of green markets inherent in the Doha agenda.

One of the reasons this agenda has made little headway is the nature of environmental policy. For over 30 years, the main focus of environmental action has been to identify, measure and mitigate environmental damage. Most environmental policy focuses on what could be termed environmental "bads" — galvanizing action to lower incidences of toxic and hazardous wastes, greenhouse gas emissions, acid rain or persistent organic pollutants. Given the sweep and depth of environmental risks facing countries, particularly developing countries, much less attention is spent on identifying positive environmental goods or services.

This gap between environmental goods and bads has spilled over into how best to classify environmental goods and services in a way that makes sense for the WTO. As Alexey Vikhlyaev correctly explains in his comprehensive and well-argued paper, the most clearly delineated group of environmental goods and services includes pollution management, such as end-of-pipe pollution abatement equipment like scrubbers, catalytic converters, hazardous waste and wastewater treatment technologies, and sanitation services. From a tariff classification point of view, most of these goods are produced and used exclusively for environmental purposes, and thus avoid thorny classification problems associated with end-use or dual-use classification problems. Moreover, these goods and services comprise the bulk of the roughly US$ 550 billion per annum environmental market.

Action by the WTO to reduce the cost of pollution abatement, wastewater treatment and sanitation services where they are needed most — in developing countries — should be welcomed. While tariffs and tariff barriers affecting pollution equipment is low or zero in most industrialized countries, they are higher in some developing countries. For

example, Argentina, Brazil, China, Chile, Malaysia, Indonesia and Thailand all apply most-favoured-nation (MFN) tariff rates for environmental technologies that exceed 20 per cent. Action by the WTO that could lower the cost would contribute — albeit modestly — to the achievement of the Millennium Development Goals.

However, for the WTO to settle for liberalizing pollution control technologies is a mistake, for several reasons. First, it bifurcates the actual characteristics of environmental markets into end-of-pipe technologies and services on the one hand, and the most dynamic and fastest growing segment of environmental markets — consumer-oriented goods and services — on the other. In that bifurcation, the WTO risks distorting 30 years of environmental policy, which has moved from tackling pollution and other environmental damage after they occur, to preventing them before they are generated. Second, action on pollution control alone sends a signal that only industrialized countries have a comparative advantage in environmental goods and services, a notion that is grossly incorrect and divisive. Mr. Vikhlyaev notes that roughly 90 per cent of all trade in pollution control technologies originates from industrialized countries, and rightly argues that a reduction in their final price through WTO action would deliver general welfare gains to developing countries by way of cleaner air and water. Of course, he is right, but one could argue that any action towards import liberalization brings with it general welfare gains.

However, the WTO agenda needs to recognize equally the export interests of developing countries. This would help reduce the north-south divide that has crippled the work of the Committee on Trade and Environment since its inception, and reflect the actual characteristics of environmental markets.

Today, environmental goods and services include hundreds of items, from energy efficiency appliances to renewable energy, from a wide range of consumer goods such as recycled paper and plastics, to sustainable forestry products and zero emission or hybrid automobiles. Consumer interest in market niches for which developing countries have a very strong comparative advantage are growing. Examples range from Mexican “shade” and sustainable coffee to very strong projected demand for environmental or sustainable tourism.

Clearly, the WTO has neither the mandate nor expertise to sort through hundreds of possible goods and services, and then consider if they ought to be given special attention under preferential or accelerated liberalization. Hence the need for WTO Members to work closely and purposefully with their environmental and developmental counterparts in order to identify goods and services on a product-by-product basis.

The best way to begin this cooperative effort is to align the work of the WTO with priorities established in MEAs. The information exchange mechanisms between the CTE and MEA Conventions have already been set by the Doha agenda. Potential action could begin on three fronts.

First, goods and services supportive of the Convention on Desertification and ongoing work of the United Nations on sustainable forestry should be identified. Second, specific products and services which support targets and timetables identified in the UN Framework Convention on Climate Change and the Kyoto Protocol should be identified. For example, a wide range of energy-efficient household and office electrical goods are now produced and increasingly consumed in developed and developing countries. Energy efficiency has a proven record in offsetting not only greenhouse gas emissions, but also other air pollution emissions. For example, the US Energy Star programme

estimates that in the past decade, energy-efficient appliances have offset almost 40 million metric tons of greenhouse gas emissions, as well as substantial amounts of NOx, SOx and other pollutants. Action by the WTO to reduce the relative price of energy-efficient appliances relative to their non-efficient counterparts could therefore yield substantial environmental benefits.

Third, goods and services that would support the goals of the Convention on Biological Diversity should be identified. Science shows that one of the leading causes of biological diversity loss is land-use change, and the loss of habitats and fragile ecosystems such as forests. One reason for such losses is the lack of markets for non-timber forestry products such as sustainable coffee, cocoa or other goods to access global markets. The ecological crisis associated with devastating rates of loss of biological diversity coincides directly with the deepening rates of poverty for small-scale farmers throughout developing countries. Indeed, in all megadiverse countries, poverty and quickening rates of income divergence between the rich and poor are also the leading cause of environmental destruction.

Clearly, the WTO alone cannot solve these urgent problems. Moreover, tariff and other barriers are hardly the main impediment to environmental markets in developing countries. However, action by the WTO in identifying environmental goods and services of export interest to developing country farmers would resonate far beyond any modest price effects that arise from decreased tariffs. Indeed, action by the WTO would command policy attention — as it does in a wide range of non-trade areas — and thus act as a powerful magnet for action, including tapping into desperately needed working capital from global investors and consumer groups in support of the poorest, most marginalized farmers in the global south.

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The title of the paper, "Defining negotiations or negotiating definitions", poses the two key questions for the negotiations on environmental services. However, these two questions are not mutually exclusive — in fact both have to be addressed and answered to ensure that the negotiations on environmental services lead to an outcome that meets the commitment in paragraph 31 (iii) of the Doha Declaration and is supportive of sustainable development.

I. *Defining negotiations in environmental services* is crucial. Environmental services fall roughly in to two groups — the environmental infrastructure services,[33] and other environmental services such as air pollution control, remediation and clean-up services, support services such as consulting, analysis, monitoring and testing, and more generally eco-system protection services. While this latter group of services, and their provision, representing new, "ecological" approaches to resource use, and in general greater environmental awareness and standards in societies, are very important, they pose fewer challenges in terms of defining the scope and limits of negotiations on trade liberalization. It is in the area of environmental infrastructure services, such as water-related serv-

ices or waste management, that WTO Members need to reflect on the scope and extent of trade liberalization negotiations.

II. *Negotiating, and agreeing, definitions of what constitute environmental services* is important to ensure that (a) negotiators have a common view of the scope of their negotiations, and ultimately commitments, and (b) that these commitments are expressed in a classification which reflects the way in which the sector, and business, is organized. Many, if not most, WTO members agree that the classification, which is currently used in GATS for this particular sector, does not fulfil these criteria.

While the paper addresses environmental services negotiations in a much more comprehensive way, I will restrict my comments to these two issues.

Defining negotiations - the case of environmental infrastructure services

Owing to their nature as network services, the existence of externalities and partly public goods characteristics, environmental infrastructure services such as water-related services and waste management are often provided either by the public sector directly or in various other forms of public-private partnerships (PPPs). These structures and arrangements are important determinants for the scope of negotiations and potential commitments on environmental infrastructure services under the GATS.

Historically, these environmental infrastructure services have been provided mainly by the public sector. In addition, they often are, or are close to, natural monopolies, or are provided through monopolies for public policy reasons. Even when the provision of these services is handed over to, or shared with, the private sector, it will often happen under monopolistic or oligopolistic structures. Therefore, competition will mainly take place *for* markets, not *in* markets.[34] This should be kept in mind when discussing liberalization of trade in environmental infrastructure services.

Nevertheless, trade in environmental infrastructure services has increased, following changes in the provision of these services leading to stronger presence of the private sector, in particular in developing countries (but not only), where the need to establish or improve water and waste management services is greatest. For Governments the underlying "driver" of decisions to permit private participation is often the compelling nature of the problems faced — for example, rapid population growth; migration to cities already under environmental stress and budgetary constraints; lack of know-how, expertise and proper management; and control systems. Private participation in environmental services provision, particularly water and waste management services, is seen as a way to ease the financial burden on Governments and at the same time "import" technical capacity, know-how, and expertise. When developing country Governments decide to open these services to private participation, this usually includes a decision to encourage foreign participation, owing to lack of domestic capacity.[35]

The opening of water and waste management service provision to private participation may take several forms: full privatization of existing government-owned utilities, granting of "exclusive rights" to private sector providers (e.g. concessions), leasing government-owned utilities to the private sector to operate, and the letting of public contracts to private companies to provide start-up services on a build-operate-transfer (to public ownership) basis.

PPPs, such as concessions or build-operate-(own)-transfer, leasing and management contracts, are more frequently chosen to provide infrastructure services. Full privatization, that is the purchase of existing (or building *and* owning new) infrastructure, as well as the provision of the service by the private operator, is rather rare. Service providers themselves are often somewhat reluctant to enter into full privatization, not least because the cost of upgrading, extending or building infrastructure (the reason why the Government often chooses to privatize is because it is itself not able to undertake the required investments), in order to be recovered, would have to be passed on to the cost of the service, and this would inevitably lead to higher rates paid by consumers. In short, full privatization of essential infrastructure services is not very widespread.

There is general recognition that government should retain a role in the regulation and provision of these services. Although even full privatzsation does not mean that Governments cannot regulate the provision of these services,[36] regulation of PPP arrangements is often seen as "easier'" given that the government is still more involved in the provision of the services. For these reasons, PPPs are often seen as the more appropriate solutions for the provision of environmental infrastructure services.

Why is this relevant to the question of how to define the scope of negotiations? The scope of the GATS is defined by Article I, which states that the Agreement covers all services. Therefore, the GATS covers all environmental services. There is an exclusion of "services supplied in the exercise of governmental authority" but this exception is very narrow, as it is strictly limited to services that are supplied neither on a commercial basis nor in competition with one or more service suppliers.[37] There have been debates about the exact scope of this exception, and this contribution does not intend to give an answer to the question. In any case, given that the formulation of Article I.3 (b) and (c) defines governmental services through the *structure* of their provision than *by sector*, it can safely be said that the services which fall under the exception will differ among WTO Members. In any case, the fact that for a specific service activity there may be a public (or private) monopoly, does not in any way suffice for this service activity to be excluded from the scope of application of the GATS. The second condition would indeed have to be met as well — that is, the service should not be supplied on a commercial basis.

A second question with regard to these services might arise from Article XIII. Article XIII.1 excludes public procurement of services from Article II (MFN obligation), and Articles XVI and XVII (market access and national treatment provisions). However, certain conditions have to be met in this case as well: the service has to be procured by a public authority, *not* with a view to commercial resale, and *not* with a view to use in the supply of services for commercial sale. Some Members have raised the question whether services, which are provided under exclusive rights or concessions, or similar forms of PPPs, should not be considered to fall under public procurement as defined in Article XIII.1 of the GATS. However, this will again depend on whether the way a service is provided would meet the conditions set, and this can vary among Members.

However, many services provided under exclusive rights awarded to private companies or under other forms of PPP contracts do not fall under government procurement, which is subject to certain exemptions in the GATS. But even if some BOTs or some contracts may involve partly government procurement, they can be opened to a certain extent through the GATS. In cases of government procurement, as defined in GATS Article XIII, the GATS enables WTO Members to take additional commitments for government procurement contracts, as was done by many countries already in financial services.

What is most relevant however, and will need to be answered by WTO Members is how to negotiate and ultimately schedule meaningful commitments for the bulk of environmental services which do fall under the scope of the GATS, but for which specific regulatory structures exist, and which are provided through various, partly new, forms of cooperation between the public and the private sector.[38]

WTO Members will need to understand better the way in which PPPs function in the provision of services, and what regulation specific to these partnerships is relevant under the GATS. They then need to clarify how these specific forms of provision of environmental infrastructure services could be scheduled to provide for clear and predictable market access for foreign service providers, without "undermining" the specific regulatory set-up they have chosen for the provision (e.g. concessions, exclusive rights, etc). They will need to find solutions to how scheduling of commitments in these sectors can reflect, and "preserve", the specific nature and provision, as well as role of the public sector, in the provision of these services, while at the same time allowing international trade in these services to develop within the legal framework of the GATS. Answering these questions, and entering into clear and meaningful commitments in these sectors, will give legal certainty to international firms for market access under certain conditions and for national treatment, which will attract private investment and also foster the development of PPPs.

Negotiating definitions-classification of environmental services

The existing classification of environmental services used in the GATS is based on the Central Product Classification of the UN. While nothing in this classification is wrong, it is a very traditional and no longer comprehensive way to classify this sector. Many WTO Members agree that the classification of the sector needs an overhaul to reflect the way the sector is structured in reality.

The European Union, and other Members such as the United States, Australia, Canada, Switzerland and Colombia, have made proposals to revise, or update, the classification of environmental services contained in the W/120. Some of these proposals, including the EU's, were based on work done in the OECD and the Statistical Office of the European Communities (Eurostat) in the 1990s on a new (statistical) classification of the environment industry, in order to reflect the changes that the industry had been undergoing. Environmental services had developed beyond traditional pollution control and remediation/clean-up activities towards pollution management, installation of cleaner technologies and resource and risk management activities. In these proposals, services are classified according to the environmental media (i.e. air, water, solid and hazardous waste, noise etc.).

The EU's proposal for a revised classification would comprise the following subsectors:

- Water supply services and wastewater treatment services (water collection, purification and distribution, wastewater services);
- Solid/hazardous waste management (refuse disposal services, sanitation and similar services);
- Protection of ambient air and climate (services to reduce exhaust gases and other emissions and to improve air quality);
- Remediation and clean-up of soil and water (treatment, remediation of contaminated, polluted, soil and water);
- Noise and vibration abatement;

- Protection of biodiversity and landscape; and
- Other environmental services.

While one could argue that all, or almost all, of this is implicitly covered by the current classification, it would be preferable to mention explicitly services for remediation and clean up of polluted soil and water, and services for the protection of biodiversity. Also, there is clearly more to solid waste management than just refuse disposal services – it involves the collection, storage, treatment and disposal (incineration, composting, landfill) of both non-hazardous and hazardous waste. There is more to water management, water purification, wastewater treatment and water recycling than just "sewage services". In addition, there is no obvious "home" in the existing classification for services such as ecological research and consultancy, environmental impact assessment and biodiversity-related services, except under "other".

The EU's proposal basically aims at "updating" the current classification by modernizing the descriptions for the core environmental services to reflect better the nature and scope of the activities, and to better reflect the new, and more sophisticated, services which have developed for environmental protection and resource management. While it should in no way prescribe the exact level and scope of commitments which Members may wish to undertake, such a classification would base commitments on a clear and up-to-date description of this service sector and provide greater flexibility to Members to undertake commitments.

Evidently, a classification, or definition, is only a means towards the overall objective of improved commitments, and should serve the overall objective, that is increasing trade in environmental services. Nevertheless, it constitutes an important tool for the negotiations, and resulting commitments, by setting in a way the definitional framework. By agreeing on a common classification, Members, and ultimately service providers who wish to benefit from market access commitments, share an understanding of which activities are open for international trade.

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Paragraph 6 of the Doha Ministerial Declaration reiterates that "the aims of upholding and safeguarding an open and non-discriminating multilateral trading system and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive". Paragraph 31 of the Declaration states that "with a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on …(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services".

One of the major concerns regarding the environment is climate change. The rapid rate of growth of fossil fuel consumption has been a major factor contributing to climate change. There is an increasing realization that the switch to non-conventional and renewable energy sources in order to meet growing energy needs cannot be delayed any longer. It is imperative, therefore, that renewable energy forms an essential part of any

attempt at a global consensus on trading that addresses environment and sustainable development.

Alexey Vikhlyaev, in his very enlightening article, has brought out the role of renewable energy generated by solar and wind technologies, among others, mainly in the context of environmentally preferable products (EPPs). “The uncertainty about definitions and classification of the environmental industry”, as pointed out by Mr. Vikhlyaev, holds true in the case of renewable energy as well. In mitigating climate change and consequently environmental harm, renewable energy has a stand-alone position in addition to its role in EPPs. My submission is that “energy” — that is, its generation and distribution — should be treated with “goods and services which provide environmental protection in different domains: water, solid waste, air, soil, noise, natural resources and miscellaneous services”, as explained in the article.

Paragraph 16 of the Doha Declaration states that the negotiations “shall aim to eliminate barriers to products of export interest to developing countries”. It also reaffirms that “they shall aim to increase the participation of developing countries in trade in services”. One area where the above-mentioned objectives could be pursued is renewable energy. Unlike in the case of other EGS mentioned in the article, where developed countries look for “market access” and where developing countries look for “access to EGS”, in the case of renewable energy products, the emerging markets consist not only of the energy-starved developing and least developed countries but also developed countries as the “commitment period” under the Kyoto Protocol draws closer. Developing countries have become extremely capable in terms of manufacturing and providing services (consulting, engineering, and so forth).

Although the automation level in the manufacture of renewable energy goods is far lower in developing than in developed nations, it constitutes an advantage in that it offers flexibility in the case of decentralized energy generation and distribution, which are much needed in most parts of developing countries. However, to ensure that the liberalization efforts in this sector at the WTO become commercially, financially and technically viable, they should be considered in connection with the possibilities of financing them, as mentioned by the author. The growth of renewable energy production, especially solar energy, is inhibited by the high initial capital costs. As aptly pointed out, the challenge is to develop institutional linkages between the negotiations at the WTO and all the different forums that deal with development finance and assistance.

The article is not very emphatic about the need to modify the Harmonized Commodity Coding and Description System within each segment in order to enable the participating nations to calibrate their response more accurately to their needs and capacity in technology and service supply. Local rules and regulations may have to be modified, taking into account the prerequisites of adding value at the destination and the employment of local consultants.

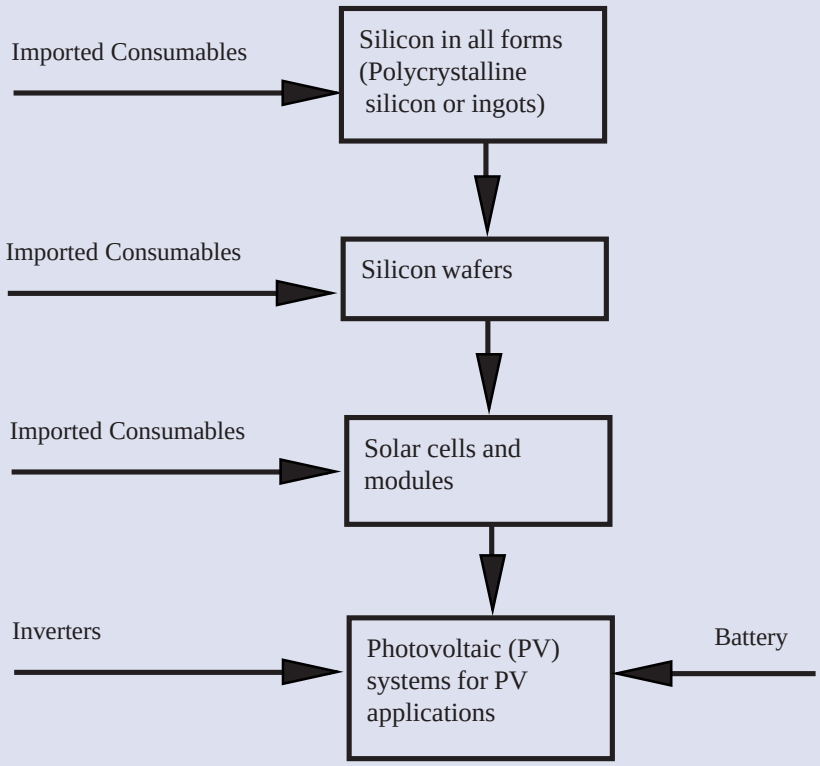
The following example from the renewable energy industry, and more particularly the solar photovoltaic industry, illustrates the need for a more detailed and modernized classification of environmental goods to analyse the implications of trade liberalization.

In many developing countries, import duties are an important source of government revenue and sensitive in nature as they are often attractive because of their ease of revenue collection in comparison with revenue collection from domestic income or sales tax. However conflicting interests can arise, for example, in the case of renewable energy equipment, which offers savings on fuel import costs in many instances. On the one

hand, import duties increase the cost of imported items that go into the products and will have a long-term impact on the economy. On the other hand, it has taken more than two decades to build up the capacity in this sector and many constituents of the chain may need "protection". The existing OECD and APEC lists do not allow any leeway for calibrating the right response, taking into account the conflicting situation mentioned above. These lists mention only one heading, namely "photosensitive semiconductor devices, including photovoltaic cells".

Silicon in all forms: Although technology is available, there is no incentive to manufacture this item. It will be useful for the industry to import silicon nuggets and ingots until those conditions are put right. This situation *favours liberalization*.

The forward intergration of a solar photovoltaic system progresses as follows:



Silicon Wafers: Although India has the capacity to produce about five million wafers, and the requirement could be in the order of 10 to 15 million wafers, only about one million are being produced because of the high cost of energy. Until those conditions are put right it will be useful for the industry to import silicon wafers. This situation *favours liberalization*.

Solar cells and modules: Indigenous capacity for manufacturing is about 30 MW of solar cells and 70 MW of modules against a production of about 20 MW of cells and modules. Unless there is aggressive demand growth, any liberalization of imports will only hamper the indigenous capacity as foreign manufacturers have an edge over indig-

enous ones due to availability of consumables, capital goods (machinery) and financing at far lower cost. This segment therefore needs *existing levels of protection.*

Photovoltaic systems for various applications: Although India is second to none in terms of system engineering knowledge, and solar module and battery availability, there is a dearth of reliable hybrid controllers and inverters which go into the systems deployed for applications. Furthermore, there is no plan in the industry to address the requirements of capacities above 5 KVA in size. Currently, such inverters are appraised on merit and carry a very high level of customs duty, which increases the cost of the system and strikes at the root of cost/benefit. There is a need to look at these high-tech inverters, which when deployed for solar Photovoltaic applications, *attract a lower level of duty if not zero.* However, in order to overcome the skewed effect, the photovoltaic systems as a whole need *protection.*

The above-mentioned is only one illustration of the dilemma in addressing one heading. Therefore, from the liberalization point of view the tariff classification needs to be more disaggregate than the OECD and APEC lists.

The second EGS article in the *Review* (Barria et al.) very clearly brings out the balancing of equations in the liberalization of trade in EGS for Central American and Caribbean countries. From a developing nation perspective, and more specifically from an Indian angle, many of the inferences drawn are wholly applicable. Examining the implications of trade liberalization and strengthening of domestic capacities in EGS is critical for all developing nations. Most of the issues raised in the countries studied are also relevant for India and other developing countries, in particular the following questions. What are the benefits (and risks) of trade liberalization? What is India's export potential in certain segments of the EGS industry? What classification of EGS suits the trade and sustainable development interests of the country? What conditions should be attached to specific commitments? What are the capacity-building needs relating to EGS, in particular in the context of their inclusion in the WTO negotiations?

The country studies referred to in the article have focused largely on sectors for which a certain amount of information was available, although original research has also been undertaken. The authors mention that the sector coverage will gradually increase to include other sub-sectors, including, where possible, those for which information is currently very scarce. One sub-sector where greater focus on information assimilation is needed is the renewable energy sector.

India, by being a signatory to the Kyoto Protocol and in recognition of its potential for climate change projects, has already become a favourite destination for investment projects under the Clean Development Mechanism (CDM). Such projects will become an important driver of demand not only for environment-related consultancy services, but also for technologies and systems.

It is observed, that a balance has to be found between the need for a modernized classification of environmental services as a means to allow for commercially relevant commitments on the one hand and developing countries' concerns about the implications of reclassification exercises and a broadening of the environmental services sector under the GATS on the other hand, and this is an extremely relevant observation.

As seen in the case of Cuba, the main constraints facing the environmental infrastructure services in many of the other developing nations also are lack of equipment, technology and finance.

One of the major potential benefits that developing nations derive from the WTO is increased exports. India's exports have almost doubled in less than a decade under the WTO regime; they went up from $26.3 billion in 1994-1995 to $51.7 billion in 2002-2003. Not only do exports help to earn much-needed foreign exchange but also increased international trade results in improvements in the coverage and quality of services available in the domestic market.

All the above explains the need for intensive capacity-building measures. As stated in the article, the authorities responsible for trade negotiations should organize consultations with other ministries and with relevant industries to determine how best to ensure the consistency of any new liberalization commitments with national policies. In this regard, the DFID-funded project "Strategies and Preparedness for Trade and Globalization in India" implemented by UNCTAD in cooperation with the Ministry of Industry and Commerce is highly relevant. In particular, the national seminar on environmental goods and services organized by UNCTAD and the Tata Energy Resources Institute (TERI) in New Delhi on 16 May 2003[39] made possible a very useful dialogue among various stakeholders in the country. Seminars, studies and training carried out under UNCTAD's capacity-building activities have gone a long way to creating awareness, among various stakeholders in the country, of the synergies between trade, environment and sustainable development.

❻ Dale Andrew[40]

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In this new issue of the *Trade and Environment Review*, the second of the two papers dealing with environmental goods and services (EGS) is an important complement to the first, general discussion entitled "Environmental goods and services: Defining negotiations or negotiating definitions?" The second article focuses on concrete outcomes of research and consultations undertaken in five Central American and two Caribbean countries, which were aimed at identifying linkages between trade and sustainable development. In a similar vein, the OECD Joint Working Party on Trade and Environment (JWPTE) has been following up its extensive work from the late 1990s on EGS.[41] Recently, the JWPTE decided to deepen its study of the role of trade in EGS, this time by approaching it from the environmental side. The new exercise examines the determinants of demand for EGS in eight economies — three rapidly industrializing OECD Members and five developing countries — and the respective roles of national output and imports in meeting this demand.[42] While the OECD studies still represent work in progress, it is interesting to compare these preliminary results with those from the UNCTAD-supported research. These brief comments will highlight similarities in these various case studies about growing demand for environmental services.

Meeting environmental needs and understanding the demand drivers for ES

The bulk of environmental needs in the countries studied is in the category of what the OECD/Eurostat classification terms "the pollution management group". UNCTAD divides these services into two sub-categories:

(a) Environmental infrastructure services: Water supply, sewage connection and wastewater treatment, as well as solid waste management, were considered in the eight

OECD case studies as key national environmental priorities, as indeed they are also in the Central American and Caribbean countries. The primary factors behind the growth in demand include population growth, rapid urbanization and an expanding economy. Interest in improving the management of hazardous waste, on the other hand, appears to be more localized in countries or regions that are rapidly industrializing.

(b) Non-infrastructure, commercial environmental services: Air and water pollution control — including river restoration and remediation and clean-up of soil are also important national environmental priorities in the countries studied. Growth in demand is seen as a function of domestic environmental regulations and, as importantly, by the degree of enforcement. For example, stricter control of air quality requires installation of sophisticated ozone-measuring devices, and a higher level of water quality necessitates analysis and testing services. In many cases growing civilian preferences for improved environmental quality were cited as a key determinant, as were voluntary initiatives by industry to improve its corporate social responsibility and environmental image.

A third category of environmental services involves services which support the delivery of services in the first two categories or which reflect newer environmental priorities: *consulting; design and engineering; construction and installation; analysis and monitoring, including environmental impact assessments; and certification services*. Demand for this group of services tends to be determined directly and indirectly by environmental and related regulations. These activities were found to be in growing demand in countries studied by both UNCTAD and OECD. Perhaps most surprising was the discovery in many of these countries that they had an actual or potential national supply for many of these services.

The OECD and UNCTAD studies further recognize the importance of a shift in emphasis in environmental policy towards *pollution prevention* and *natural resource management*, in areas such as energy efficiency, water conservation and recycling. In some cases, it is national environmental policy that has been evolving to complement command-and-control environmental regulations, which generally rely on end-of-pipe technologies and traditional pollution control services, with new types of environmental instruments and the redesigning of processes to emphasize reduction in raw material inputs, including energy. In other cases, the obvious financial advantage for entrepreneurs to save on raw materials is the principal determinant of this growing demand for certain environmental services related to pollution prevention.

Participation in MEAs is also creating demand for related environmental services, particularly some of these same professional services, such as analysis and assessment, but also project formulation and environmental R&D. In several countries studied, mention is made of services needed in the context of the Clean Development Mechanism (CDM) under the Kyoto Protocol. Assistance from bilateral and international agencies (e.g. the InterAmerican Development Bank and the World Bank) for implementation of MEA obligations, as well as their support for strengthening of domestic environmental institutions, has also been identified as a demand driver for environmental services.

Certification services of various types, such as those required in order to accredit environmental management systems (EMS) and for organic products, are also frequently referred to in the national studies. Plans to develop exports of organics have often run into a lack of domestic capacity for certification. Whereas such services may in some cases be imported, in other cases, firms with relevant expertise have succeeded in obtaining accreditation by the competent authorities in importing countries.

It is also widely recognized that national environmental institutions' weak enforcement capability can act as a dampener on demand. Whereas regulations in many countries reflect best practices, the lack of follow-up or the perception that enforcement imposes extra costs on exporters has meant that the regulations have not had the effect they could have had. In all studies the importance of institutional strengthening and capacity building was underscored — particularly at the local level.

Finally, government procurement and the way bids are specified have been identified as a barrier to the adoption of appropriate environmental technology. A common problem seems to be that the government bids for tender specify technology-specific solutions instead of performance-based approaches.

Possible implications for promoting trade in environmental services, including in those areas where developing countries' export potential and environmental needs coincide

Promoting a whole-of-government position through research on national needs and supplies, as well as holding consultations with stakeholders,[43] can allow governments to identify national trade interests — both in imports and in exports — of environmental services. Participation in the Central American and Caribbean regional consultations by Geneva-based services trade negotiators provided national stakeholders with the opportunity to appreciate the complexities of WTO Agreements, including the GATS, and in turn informed trade negotiators about essential national needs in terms of meeting environmental goals.

All the national case studies recognize the important role of imports in addressing environmental protection and pollution prevention problems. In general, imports lead to increased availability of goods and services at better prices and quality, as well as increased access to finance, management and know-how. Even in countries with national supply capacity in various sub-sectors of the environmental industry, other essential inputs are imported — both goods and other services.

Numerous examples of market access opportunities in services trade for developing country-based firms are increasingly being documented.[44] Cataloguing national services capabilities, as was done in the UNCTAD's Central American and Caribbean studies and in some of the rapidly industrializing countries studied by the OECD, has revealed that domestic supply in many services sectors is growing. This belies a common perception that developing economies have little export interest in services. Quite often regional markets, for reasons of linguistic and cultural ties and knowledge of similar environmental conditions, become a stepping-stone to global exports of services; or, following a more traditional paradigm, foreign investments may, through joint ventures or other partnerships (including public-private arrangements), lead to the adaptation of technology to regional needs and development of national capacity. Appropriately negotiated, these commercial ventures can result in a strengthening of domestic supply of services and over time of export capacity. In some of the middle-income countries studied, design, consulting, engineering and other professional services have been successfully exported to other developing countries in the region, in direct competition with companies from developed countries.

Classification issues are crucial for services trade negotiations. Previous OECD work[45] and discussions in the WTO have pointed to the inadequacy of the W/120 sectoral classification list in terms of both environmental needs and commercial reality. Other articles and commentaries in this issue of the UNCTAD *Trade and Environment Review*

emphasize the importance of "dusting off" W/120 in the area of environmental services. This point has been made time and again in classification proposals, *inter alia*, by Australia, Colombia, the European Union and Switzerland.

Possible implications for trade negotiations

Challenges arise then as to how to exploit the information assembled in these studies for the use of services negotiators in order to move towards better implementation of national environmental policy and sustainable development. To what extent can trade liberalization and in particular the current GATS negotiations increase availability, price and quality considerations for those countries wishing to make use of increased trade in services to meet their national environmental priorities? Owing to the restrictive sectoral classification list used in the Uruguay Round, several countries have made offers on the basis of a modernized list. A further challenge is to recognize the close link with a whole host of other related services. Ideas such as using a "core and cluster" approach or checklists of associated or intrinsically related environmental services have also been advanced.

How can the growing markets for environmental services be tapped by those developing countries where the cataloguing of national capacity has revealed export potential? Some of these areas, as shown in the studies, include services intrinsically related to environmental services, such as consulting, architecture, engineering and construction. Where export potential exists, requests could be addressed to trading partners. Where analysis shows national capacity is insufficient to export relevant services, in-depth identification of the barriers to the delivery of needed services by other WTO Members, for example through mode 3 to attract foreign investment, is necessary. Making national restrictions more transparent and taking decisions on where specific commitments can be scheduled — both in infrastructure and commercial services as well as the intrinsically related group — should promote imports of the range of services needed to implement sustainable development goals.

Complementary measures to trade liberalization

All of the national studies — as well as other articles and commentaries in this issue, — emphasize the importance of regulatory frameworks to accompany liberalization. To take one example, quality control must be ensured, be it for the professional qualifications of service providers or to ensure protection for the final consumer of the output of the service provided (irrigation water, soil decontamination, water for human use, etc.).

In sum, the findings presented in the article by Barria and others on studies and consultations involving stakeholders in seven Central American and Caribbean countries point in the same general direction as OECD-supported research on three OECD rapidly industrializing and five non-OECD Members — that services trade can make an important contribution to meeting sustainable development goals. These case studies use a particular approach to understanding both national environmental needs for environmental goods and services and the contribution, as well as the limitations, of trade liberalization in meeting growing demand for greater environmental quality, whether this be for basic environmental infrastructure, other pollution management services or pollution prevention, natural resource management and intrinsically related services. Such a needs assessment approach is also playing a role in helping to discover supplies of intrinsically related environmental services offering export potential for developing

country firms. The outcomes of these exercises can then inform trade diplomats when defining national positions for the current GATS negotiations.

7 Umberto Mazzei

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The paper "Environmental goods and services: Challenges and opportunities for Central American and Caribbean countries" provides a well-structured analysis of the environmental services sector in those countries, focusing on key characteristics of the sector, demand for and supply of environmental services and WTO negotiations. Guatemala is one of the countries participating in the UNCTAD-FIELD project and a national study on the environmental services sector in this country is in preparation. Such studies are important in helping to address existing research and information gaps and supporting national consultations. This commentary briefly examines Guatemala's institutional framework for environmental policy, its environmental services market, its foreign direct investment (FDI) policies and approaches to the WTO negotiations on environmental services.

Institutional framework

In Guatemala, which means "land of the forests" in Nahuatl, policies to protect and improve the environment and the institutional coordination of such policies, have evolved since the creation of the National Commission for the Environment (CONAMA, Spanish acronym) in 1986. The most relevant activity of this governmental entity was the evaluation of environmental impact studies required for new industries. It also supervised the activities of other, more specialized offices.

In January 2001, the Government of Guatemala created the Ministry of Environment and Natural Resources as a means to better coordinate the country's environmental policies. According to its Strategic Plan, the activities of the ministry were divided in three areas: (a) environmental quality, (b) sustainable management of natural resources, and (c) cross-sectoral matters related to both areas.

In accordance with this structure, the Ministry of Environment and National Resources has direct responsibility for activities relating to environmental quality. It shares responsibility for the sustainable management of natural resources with other governmental entities, such as the Ministries of Agriculture and Mines and the National Forestry Institute. In the case of cross-sectoral matters relating to both areas, other ministries, such as the Ministry of Education, are also involved along with universities, research centres and productive sectors associations that are directly or indirectly linked to the management of the environmental and natural resources.

The Centre for Legal Environmental Action (CALAS, Spanish acronym; www.calas.org.gt) is a well-known local environmental organization in Guatemala. CALAS states that "In Guatemala, public and private efforts related to environmental protection, sustainable use of natural resources and biodiversity are dispersed. This is reflected by the involvement of 58 different public entities, which are disseminated within

the Environment Ministry and the State's executive, legislative and judicial branches, as well as through the municipalities and government autonomous entities".

Additionally, a number of ongoing projects are worth mentioning, in particular, the National System of Environmental Evaluation, the National System of Environmental Quality and the National System of Environmental Management.

Environmental services market

In order to take advantage of the economic, environmental and social opportunities that the adequate provision of environmental services would offer, it is necessary for each country to develop a strategy of technological development on the supply side and regulatory and institutional frameworks to stimulate demand. In addition, the country's approach to infrastructure investment will also influence the environmental services market. It is important to emphasize that the environmental services market tends to develop in different stages, which depend on the evolution of public policies, as well as economic and socio-cultural conditions.

The recent privatization and liberalization in some developing countries in the water, energy and waste treatment sectors have resulted in private enterprises playing a larger role in the delivery of public environmental services. Furthermore there are also cases where successful public enterprises in developed countries are competing with private companies in the international market.

In the case of Guatemala, the main clients for environmental services are the public and manufacturing sector, with the public sector also acting as the main supplier. The latter is responsible for the supply of potable water, the treatment of residual water, the management and processing of waste, and the management of natural resources and forests. The supply of services can be effected either at the municipal level, as in the case of water, or by state entities, as in the energy sector. Regarding waste treatment, both the public and private sectors play a role, especially in urban areas, where the provision of such services is frequently outsourced to private enterprises.

Private sector investment is typically concentrated in the fight against atmospheric pollution and wastewater treatment.

An example of the contribution of the private sector to the supply of environmental services can also be found in the sugar industry. The National Association of Sugar Producers on Guatemala (AZASGUA, Spanish acronym) has been successfully promoting the investment in waste management equipment and programmes throughout this industry. This is relevant as the main environmental problems that sugar producers face are the pollution of water basins due to the use of fertilizers, as well as the management of residual sugar cane fibres.

Foreign direct investment

Legislation on FDI in Guatemala is modern and open, offering stability and transparency to the foreign investor. This facilitates investment, including in the area of environmental services, and strengthens the country's position in services negotiations.

Negotiations

Guatemala has a small economy and is in the first stage of developing an environmental services market, consisting of basic infrastructure of environmental services (which have the characteristics of a "public good"). In the second stage of this development, the country will require the contribution of private enterprises to ensure more efficient use of natural resources, as well as compliance with national environmental regulations. Progression to this second stage will require the participation of foreign suppliers of environmental services. In the context of the WTO negotiations, the perception of this need has led European and North American countries to request developing countries to open the environmental services market to foreign investment.

The third stage of the development of an environmental services market is related to the need to comply with environmental requirements in international markets and to enhance the environmental performance of production processes. This also involves issues of environmental certification.

To date, Guatemala and Panama have been the only countries in the region to present a proposal on environmental services in the WTO negotiations since the Doha Ministerial Conference. Specifically, Guatemala has offered and requested liberalization in modes 1, 2 and 3 for services related to nature and landscape protection (CPC 94080) and in mode 4 concerning landscape architecture and environmental engineering. The latter services require intensive use of qualified labour, in which Guatemala has comparative advantages.

Conclusions

Guatemala suffers from environmental degradation despite having relevant public and private sector strategies and an established regulatory and institutional framework since 1986.

A growing ecological consciousness among social groups, the perception among industries of the economic loss caused by ecological damage, the opening of environmental services to private investment and the market liberalization offered during the WTO negotiations, are all indications that the conditions needed for improvement are present.

The means to achieve the above would be the development of an environmental services market through the assimilation of international investment and modern technology.

The UNCTAD/FIELD project is an important contribution in providing an orientation to this development, as it offers the opportunity to compare regional experiences and needs. It also opens the door to increased coordination of common efforts and to the channelling of investment to more efficient environmental services that can improve the quality of life.

8 **Scott Vaughan**

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One of the surprises of the Doha Ministerial Declaration (DMD) remains the reference to environmental goods and services (EGS). In the Declaration, WTO Members promised to consider differentiating liberalization schedules for EGS compared with their non-environmental or mainstream counterparts.

Since that decision of three years ago, work in Geneva continues to examine how best to classify EGS in a way that mirrors the characteristics of green markets, while providing unambiguous and useful customs codes that negotiators can use in fulfilling the promise of Doha. This balancing act in classifying EGS remains far more difficult than many imagined, since EGS are inherently dynamic — driven by regulatory and policy developments, scientific evidence and public preference.

During the past decade, green markets for goods and services have grown to exceed US$ 500 billion in revenue per year. Examples range from capital goods such as end-of-pipe scrubbers and catalytic converters for automobiles to wastewater treatment technologies and related engineering, auditing, legal and other services. In these areas, work by OECD and UNCTAD have underlined the importance of ensuring that the liberalization of environmental goods moves closely in tandem with related services liberalization. However, green markets are hardly limited to big-ticket capital goods for which industrialized countries have the strongest comparative advantage. Other examples of EGS include sustainable forest and fisheries products, the booming eco or sustainable tourism segment, energy-efficient appliances and renewable energy, recycled materials for consumer markets, carbon sequestration and related services, green fabrics made of non-toxic dyes and other procedures, and sustainable agricultural produce.

This second cluster of EGS remains the most difficult to classify from a customs perspective. This in part reflects the fact that for the most part there is an absence of uniform or international standards as to what exactly is “green” in different market segments. For example, there are over 75 major environmental labelling and certification schemes in place in North America alone, and almost as many covering specific products and services. In the area of sustainable coffee — a product that has received a great deal of policy and consumer attention since the late 1990s — there are differing definitions, often combining criteria of organic, fair trade and biological diversity considerations.

The difficulty in classifying EGS in a way that is useful for trade negotiations also reflects the fact that most goods and services described in some way as “green” or “environmental” are so defined because of their *relative* environmental characteristics. That is, most consumer environmental products and services are described in that way because they are greener than their mainstream or standard counterparts. No EGS are completely environmentally benign, but their impact or footprint on the environment — however measured — is lower than that of their mainstream counterparts. For example, appliances that receive an energy efficiency label tend to be anywhere from 30-70 per cent more efficient than appliances that lack such a label. However, as technologies advance, those that were defined as the upper limit of energy efficiency performance a decade ago may find themselves at the lower end of that definitional spectrum today.

An additional challenge for the rules of the trading system is that many EGS are defined because of their production criteria in addition to their product characteristics, product performance and product end-use (reuse, recycling and disposal) characteristics. Production criteria remain a source of uncertainty and possible tension in the WTO, which is why casting a wide net around EGS classifications remains sensitive as well as procedurally difficult.

Notwithstanding these challenges, the paper "Environmental goods and services: Challenges and opportunities for Central America and Caribbean countries" clearly identifies both the potential this issue brings to developing countries of the Americas, and the policy challenges inherent in deepening liberalization of environmental services. In the area of environmental goods, the authors examine not only some definitional or classification challenges relating to the EGS mandate, but also key information barriers or failures that continue the gap between small-scale producers of EGS in developing countries, and consumer preferences, market characteristics and market changes.

Information failure is hardly a new concept; for years, UNCTAD, as well as the International Trade Centre, the WTO secretariat, bilateral donors and others have struggled to identify and overcome information bottlenecks and related failures that hinder in particular small and medium-sized producers in developing countries. There are a number of other challenges closely related to the information failures, which may be partially addressed as foloows:

Knowing consumer preferences and willing to pay: Outside regulatory-driven EGS such as end-of-pipe abatement technologies intended to meet pollution targets, markets for such diverse products as sustainable forest products, green electricity and sustainable or low-impact farm produce are all about public preferences. Consumers are no less fickle about EGS than they are in any other market. Before small-scale producers in developing countries invest in expanding their production and delivery of EGS, they need to understand consumer interest in, and willingness to pay for, EGS. As part of capacity building for EGS, more work is needed on undertaking targeted consumer surveys and market analysis. As a rule of thumb, market surveys measuring EGS show that for every ten people who say they would buy green goods, only one person actually does. However, there are several crucial factors even for customers who practise in the market what they preach in the policy arena: (a) a price premium above 10 per cent, compared with non-environmental goods, sees consumer support quickly drop off; (b) consumers will pay as much as 10 per cent more if the product delivers quality *comparable or superior* to that of non-environmental products. If green goods show uneven quality, then customer loyalty plummets.

Costs of Multiple Definitions and Third-Party Certification: As noted earlier, one of the challenges facing all suppliers of EGS is the absence of uniform, international or global definitions of environmental goods. UNCTAD continues to provide invaluable analysis of potential market access or diseconomies of scale arising from multiple environmental labelling and certification schemes for EGS. These schemes present challenges to producers, as well as eroding the understanding and confidence of consumers. In recent years, there has been a great deal of talk about "labelling fatigue," as some consumers — fed up with competing and confusing claims about what is green or greenest — walk away from some green markets, while all-important new consumers remain disengaged.

Access to Finance: It is hardly news that small-scale producers in developing countries often face chronic obstacles in accessing working capital, and unfortunately EGS

proves no exception to this problem. Although many definitions of EGS in the agricultural and textiles sector in fact hinge around an absence of capital inputs such as pesticides, herbicides, bioengineering or chemical dyes, small and medium,-sized companies nevertheless need working capital to meet a range of production and product-specific requirements, as well as paying for third-party certification. One potentially powerful ally in addressing this systemic issue is the reduced role that spot markets are playing in agricultural, textiles and apparel and other markets for which developing countries have a strong comparative advantage, and their replacement with purchaser supply contracts. These contractual arrangements often link large retail buyers with small-scale producers. Supply-purchase contracts typically cover such aspects as quantity, price as well as quality specifications of produce delivered to buyers. Often, these contracts spell out specific environmental criteria and act as a key determinant for the ability of producers to access working capital (either from local banks, or more directly from the buyer).

Given the growing importance of supply-purchase arrangements, there is an opportunity for large retail buyers — especially in the United States, for which the majority of exports from the Central American and Caribbean countries are destined — to advance the EGS agenda in a way that benefits small-scale producers in those countries. Clearly, many large-scale buyers have adopted corporate social responsibility and environmental codes covering their internal operations. Building on these virtues, leading companies in the region have a tremendous opportunity to promote EGS cooperatively with small-scale producers, and in so doing, extend working finance to producers. One lesson of "win-win" relationships involving trade and the environment is that realizing these win-win outcomes is hardly straight-forward, and often entails difficult decisions that affect and unsettle the status quo.

Turning briefly to the area of environmental services, the UNCTAD paper rightly points out that the liberalization of environmental services — particularly involving water delivery, wastewater treatment and sanitation services, remains a key challenge for countries of the region. Liberalization of public services almost always requires *more* — not less — domestic regulations related to competition policy, as well as the ensuring of universal access, service reliability and service pricing and tariff caps. The paper rightly notes that there are potential risks involved in services liberalization, not least ensuring that developing countries have sufficiently robust regulatory oversight and related government actions. Given these risks, caution is needed to ensure that countries do not move too far ahead of their domestic regulatory capacity to track the effects of water services liberalization.

Finally, the one sector briefly noted in the UNCTAD paper is tourism. In recent years, there has been a huge increase in the demand for environmental, sustainable and eco-tourism (as in other areas, there is no common definition). Given the tremendous economic importance of tourism to the Caribbean and increasingly to Central American countries, more work is needed to define and actively promote environmental tourism in a way that delivers tangible benefits to those countries.

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The paper "Environmental goods and services: Challenges and opportunities for Central American and Caribbean countries" contributes to the existing knowledge on the impact and relevance of environmental goods and services in the building of sustainable development processes within the region.

The diversity with which each of these topics can be approached is reflected in the paper's conceptual analysis, definitions and classification of environmental services, all which are significantly influenced by each country's individual characteristics. The article covers important aspects related to trade in environmental goods and services, ranging from the analysis of the negotiation and consultation processes to the definition of each country's priorities and capacity requirements.

The results set out in the paper are important for the countries included in the analysis. It defines the path to define each country's export interests and improve its market access. It also helps to identify and overcome the potential tariff and non-tariff barriers to trade in environmentally preferable products.

The authors also demonstrate that the demand for environmental services in these countries is significant. Moreover, they highlight the fact that the demand for environmental services is usually associated with the acquisition and use of environmentally friendly technologies, as well as with infrastructure development and modernization. Thus, this translates into high economic, political and social costs, which in most cases the countries in the region are not prepared to confront.

In this context, the paper becomes a call for increased political will and economic support, as well as for the building of a national and international consciousness, all which should converge into real situations that can benefit trade, environment and development.

Notes

1 It can be argued that after Rio a number of OECD members have effectively sought to supplant the "mutual supportiveness" principle and have pushed instead the principle that trade and environment policies should be "integrated".

2 A strong case can be made that environmental officials in some Governments consciously pursued measures that conflicted with WTO provisions. Officials in EU countries refused point blank to have an operative provision in the Cartagena Protocol, which expressly stated that WTO members rights were protected. Green lobby groups were also fully aware. Lori Wallach of Public Citizen wrote in "Whose Trade Organization", which was published before the WTO Ministerial Conference in Seattle and before the Cartegena Protocol was finished, that a key objective should be to create provisions in the Protocol that undermined the WTO rules on use of trade measures to protect sanitary and phytosanitary measures. (They are the provisions limiting such measures to reflections of international standards, or to scientific principles and risk assessment procedures).

3 The views expressed in this commentary are those of the author and should not be attributed to the Secretariat of the Basel Convention.

[4] The author is a Counsellor at the Permanent Mission of Costa Rica to the WTO in Geneva. The views expressed in these comments are strictly of a personal nature and should not be attributed to the Government of Costa Rica.

[5] The paper correctly notes that only 38 of the 238 or so MEAs currently in existence contain trade measures – but omits to add that these include many of the most wide-ranging and effective MEAs, and also many of those most recently negotiated.

[6] See Ros Reeve, *Policing International Trade in Endangered Species: The CITES Treaty and Compliance* (London: Royal Institute of International Affairs, 2002), Chapter 5, "Problem Countries".

[7] See Duncan Brack, *International Trade and the Montreal Protocol* (London: Royal Institute of International Affairs, 1996), pp. 54–59.

[8] As allowed under the "Indicative list of measures that might be taken by a meeting of the Parties in respect of non-compliance with the Protocol", section C – see UNEP Ozone Secretariat, *Handbook for the International Treaties for the Protection of the Ozone Layer* (sixth edition, 2003), p. 297.

[9] The argument is mentioned in the paper, but is implicitly dismissed in the following sentence.

[10] Reeve, *Policing International Trade in Endangered Species*, p. 121.

[11] Duncan Brack and Kevin Gray, *Multilateral Environmental Agreements and the WTO* (Royal Institute of International Affairs and International Institute for Sustainable Development, 2003), available at www.riia.org/sustainabledevelopment

[12] In a section not quoted in the paper.

[13] See OECD, *Trade Measures in Multilateral Environmental Agreement*, pp. 198–200.

[14] See, in particular, Article 30 of the Vienna Convention on the Law of Treaties. For extended discussions of these rules in the context of MEAs and the WTO, Gabrielle Marceau, "A Call for Coherence in International Law – Praises for the Prohibition Against 'Clinical Isolation' in WTO Dispute Settlement," *Journal of World Trade*, 33, (1999); Richard Tarasofsky, "Ensuring Compatibility between Multilateral Environmental Agreements and GATT/WTO", Vol. 7, *Yearbook of International Environmental Law*, 1996, pp. 52-74.

[15] Vienna Convention on the Law of Treaties, Article 30.

[16] By contrast, Article 103 of the North American Free Trade Agreement sets out a limited supremacy clause for NAFTA over all prior treaty obligations between the three NAFTA Parties, but not over future treaty obligations. Article 104 then sets out a limited and conditional supremacy clause for specifically listed MEAs.

[17] See paragraphs 10-11 of the Cartagena Protocol on Biosafety, 2000; also preambular paragraphs 9-10 of the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998

[18] For a fuller analysis than space here allows, see Howard Mann and Stephen Porter, *The State of Trade Law and the Environment 2003*, IISD/CIEL 2003 (Forthcoming)

[19] *United States – Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia*, Report of the Panel, WT/DS58/RW, 15 June 2001. Hereinafter, Shrimp-Turtle Implementation review panel decision; *United States – Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia, Report of the Appellate Body, 22 October 2001*, WT/DS58/AB/RW.

[20] The regional agreement in question was the *Inter-American Convention for the Protection and Conservation of Sea Turtles*, which the United States and several Atlantic and Caribbean states were signatories to. The AB endorsed its use "as a basis for comparison" with unilateral measures adopted by the United States that were applied to other countries. Shrimp-Turtle Implementation Review, paragraphs. 127-130, esp. 130.

[21] Shrimp-Turtle Implementation Review, paragraphs 20, 125-126.

[22] An international standard is a technical term in trade law that refers to standards adopted by international standards negotiating bodies such as the ISO. An international treaty is not considered to be a standard in this context.

[23] For a classic example of this view in its broadest form see William Dymond & Michael Hart, "Post Modern Trade Policy: Reflections on the Challenges to Multilateral Trade Negotiations After Seattle," (2000) 34(3) *Journal of World Trade*, pp. 21-38.

[24] Aaron Cosbey and Stanley Burgiel, The Cartagena Protocol on Biosafety: An Analysis of Results, IISD, February 2000, at http://www.iisd.org/publications/publication.asp?pno=332.

[25] See the text surrounding note 75 in the main paper.

[26] The views expressed are those of the author and do not necessarily represent the position of the OECD or its members.

[27] OECD, The Global Environmental Goods and Services Industry, OECD Publications, Paris, 1996.

[28] Ely J.C., C.R. Neal, C.K. Kulpa, M.A. Schneegurt, J.A. Seidler, and J.C. Jain, "Impacts of platinum-group element accumulation in the USA from catalytic-converter attrition", *Environmental Science & Technology*, Vol. 35 (19), 1 October 2001, pp. 3816-3822.

[29] Commission of the European Communities (1998), "Options to Reduce Nitrous Oxide Emissions (Final Report)", report produced for DGXI, Commission of the European Communities, Brussels. Available at http://europa.eu.int/comm/environment/enveco/climate_change/nitrous_oxide_emissions.pdf.

[30] Wald, Matthew L., "Autos' converters increase warming as they cut smog: A split over solutions", *New York Times*, 29 May 1998, pp. A1 and A18.

[31] OECD, Liberalising Trade in "Environmental Goods": Some Practical Considerations, OECD Document no. COM/ENV/TD(2003)34/FINAL, Paris, 2003.

[32] The views expressed in this paper of those of the author and do not represent the position of the European Commission, or the European Community and its Member States.

[33] The term is not to be confused with construction services for building infrastructure.

[34] Of course, there are differences between the sub-sectors. While network services such as water distribution/sewage realistically do not allow competition in the market, waste collection services do not have this constraint.

[35] OECD/TD/ENV(99)93FINAL.

[36] An example is England and Wales (UK), where water distribution services were fully privatized at the end of the 1980s and a regulator, OFWAT, was established which regulates quality, prices, and so forth.

[37] GATS Article I.3

[38] This question arises also in other services sectors, such as energy services and transport services, which display some of the same characteristics as environmental infrastructure services.

[39] http://www.teriin.org/events/docs/envgoods.htm.

[40] The views expressed are those of the author and do not necessarily represent the position of the OECD or its members.

[41] *Environmental Goods and Services: the Benefits of Further Global Trade Liberalisation*, OECD, 2001.

[42] The following countries have been studied by the OECD: Brazil, Chile, the Czech Republic, Indonesia, Israel, Kenya, the Republic of Korea and Mexico.

[43] Part I of "Managing Request-Offer Negotiations under the GATS" offers suggestions on organizing domestic stakeholder consultations on services trade. Examples of how both OECD and developing countries have been undertaking such consultations can be found in a note prepared in collaboration with UNCTAD: "Managing Request-Offer Negotiations under the GATS: Survey of Country Preparations for the Negotiations". Both are available at www.oecd.org/ech/tradepolicy/services.

[44] In addition to a series of UNCTAD experts meetings on specific services sectors held over recent years, a recent OECD study, "Services Trade Liberalisation: Identifying Opportunities and Gains", illustrates services exports by developing country firms across a whole range of sectors; available on www.oecd.org/ech/tradepolicy/services.

[45] "Modernizing the list of environmental services: OECD proposals" [Andrew, in UNCTAD (2003), *Energy and Environmental Services: Negotiating Objective and Development Priorities*,] set outs in Table 3, a list of core environmental services and intrinsically related services crucial to the delivery of core services and their corresponding GATS and CPC codes and, in table 4, the six proposals on classifying environmental services made by WTO Members through 2002.

Overview of technical cooperation/capacity building activities of the UNCTAD secretariat on trade, environment and development

Chapter 3

This final section provides short summaries of the main technical cooperation (TC) and capacity-building (CB) activities of the UNCTAD secretariat in the area of trade, environment and development (TED) issues. The chapter also gives a short overview of recent publications on TED issues by the UNCTAD secretariat. More information on each activity can be obtained from the TED website at www.unctad.org/trade_env, the website of the UNEP-UNCTAD Capacity-building Task Force (CBTF) on Trade, Environment and Development at www.unep-unctad.org/cbtf, the website of the BIOTRADE Initiative at www.biotrade.org, and the climate change website at www.unctad.org/ghg.

TED TC/CB focuses on issues such as market access, environmentally preferable products, the preservation, protection and promotion of traditional knowledge, the promotion of trade and investment in bio-diversity-based products and services, and environmental goods and services. The programme's general activities include UNCTAD Expert Meetings, exchanges of national experiences, studies, subregional seminars, national workshops and training. The programme also exploits potential synergies between activities under different projects and cross-fertilization between projects.[1]

A. Market access

A large part of analytical work and TC/CB activities of TED focus on the interface of environmental/health requirements, market access/entry[2] and export competitiveness of developing countries.

Environmental requirements present both challenges and opportunities to developing countries. The need to address capacity and institutional constraints in developing countries thereby allowing them to respond to environmental requirements in international markets and to take advantage of new production and export opportunities, was acknowledged during the Expert Meeting on Environmental Requirements and International Trade, held in Geneva from 2 to 4 October 2002. Following this meeting, UNCTAD, in cooperation with other institutions, has been exploring the creation of a Consultative Task Force (CTF) on Environmental Requirements and Market Access for Developing Countries.

The Consultative Task Force

It is envisaged that the CTF, as a project-based activity, will be a multi-stakeholder forum of government, private sector and NGO representatives from developed and developing countries that aims to:

- Discuss ways of, and make a contribution to, improving collection and dissemination of information on environmental/health requirements,[3] notably on voluntary standards, and analyse key underlying trends. In this regard, the CTF will (i)

advise the UNCTAD secretariat on required data collection, dissemination and analysis; (ii) closely follow the relevant work done by different multilateral, bilateral and private agencies; and (iii) facilitate coordination and cooperation among these agencies with a view to enhancing transparency and facilitating access to such information by developing country exporters;

- Review experience in involving developing countries in pre-standard-setting consultations concerning regulations and standards that may have significant implications for them;
- Discuss proactive adjustment policies and measures in developing countries, with special focus on (i) improving information flow and dissemination on new standards and regulations, including support for setting up national or subregional early-warning mechanisms on new requirements and for effectively participating in pre-standard setting consultations in export markets; (ii) assisting developing countries in examining how compliance with environmental requirements can help to improve economic efficiency and export competitiveness of developing countries; and (iii) identifying measures and strategies to address the specific needs of small and medium-sized enterprises (SMEs);
- Act as a "think tank" to give guidance, from a holistic point of view, to further analytical and practical work on the issues under consideration and to promote coordination of activities by different institutions.

The CTF would closely coordinate its activities with other initiatives and pool resources from different organizations. It would place particular emphasis on voluntary environmental requirements set by the private sector and buyers, and involve the private sector in its deliberations. Market access/entry and export competitiveness is also one of the key themes of the UNCTAD project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues (see below). The CTF would report to UNCTAD's Commission on International Trade in Goods and Services, and Commodities, and also inform the CTE and TBT Committees of the WTO and the Joint Working Party on Trade and Environment of OECD about the results of its work.

Current exploratory activities for creating the CTF focus on (i) sharpening the thrust of the CTF; (ii) identifying the specificity of the CTF and its synergies with other initiatives; (iii) clarifying the composition and modalities of the CTF; and (iv) conducting some illustrative activities that may help UNCTAD's International Trade Commission and UNCTAD XI provide further guidance to the work of the CTF.

Results of recent project activities on market access

The interface between environmental requirements, market access/entry and export competitiveness is also at the heart of the UNCTAD project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues (for further information, see below). In the Asian cluster of this project, which involves six beneficiary developing countries (Bangladesh, Cambodia, China, Philippines, Thailand and Viet Nam), environmental requirements as they affect market access are investigated in three key sectors (leather and footwear, electrical and electronic goods, as well as horticultural products). A recent subregional workshop on leather and footwear (Bangkok, 19-21 November 2003), which discussed six country-case studies that reviewed information flow, level of awareness, current adjustment strategies and proactive national and sub-regional approaches, came to the following general conclusions:

- Environmental requirements in key export markets are in general becoming more stringent, frequent and complex. In addition to existing tariff barriers and other NTBs, TBT and SPS measures are becoming decisive tools in the competitiveness race and need to be dealt with as an integral part of business strategies of companies and economic strategies of developing countries (i.e. eco-positioning together with price, quality and brand positioning) to defend and expand international market shares.
- The complexity of measures requires a strategic and proactive response by exporting developing countries, rather than a piecemeal, reactive and short-term approach.
- The elements of such a strategic, proactive approach may, *inter alia*, include:
    - Development of national and regional strategies in response to some very important, multisectoral environmental requirements, such as the EU's Draft REACH Directive on a new chemicals policy;
    - Establishing information clearing houses, at the national, subregional or international level on environmental requirements and related early warning and quick response systems. It is also important to gather more information on emerging regulations/standards and certification requirements and related stakeholder consultations. All avenues should be explored for active participation therein;
    - Creating or improving systems of adequate national environmental regulation and standards, as well as, where considered appropriate, specific standards for export that are similar to environmental requirements in key target markets.
    - Improving or creating eco-labelling systems;
    - Actively pursuing avenues of harmonization, technical equivalence and mutual recognition of regulations and standards;
    - Adopting measures to strengthen export competitiveness of enterprises, including reviews of environmental performance, environmental adjustment costs etc.;
    - Considering creation a mechanism for review of notifications under the TBT Agreement;
    - Better coordination of technical assistance and capacity-building activities of foreign donors (including importers, in accordance with Article 11 of the TBT Agreement) to implement the elements above.
- There is a need for strengthening international cooperation. This can include the following measures:
    - Actively harnessing provisions on special and differential treatment (S&D) in the TBT and SPS Agreements.
    - Creating international or subregional clearing houses on environmental requirements by Governments and the private sector. UNCTAD's initiative on exploring various options in this regard in the context of the planned Consultative Task Force on Environmental Requirements and Market Access for Developing Countries is a step in the right direction. The establishment of a subregional database on trade-related environmental TBT and SPS measures is proposed.
    - There is room for exploring the creation of regional or subregional standards and certification systems.
    - Developing countries need to use far more actively discussions in the TBT and SPS Committees of WTO to preserve or improve export competitiveness. All avenues should be explored to enhance transparency, prolong review periods of notifications and adjustment, and facilitate participation of developing countries in standard-related consultations.

Developing countries should also much more actively use the WTO Committee on Trade and Environment to raise concern on environmental measures related to market access, in particular critical general trends, to operationalize S&D measures, and to support proactive adjustment strategies and active involvement in stakeholder consultations in standard setting.

- UNCTAD's initiative on creating a Consultative Task Force on Environmental Requirements and Market Access for Developing Countries, as a project-based activity, was welcome and should be pursued with appropriate vigour to make it operational soon.

Participants encouraged further consultation and coordination among government agencies and business associations at national level. Particular attention should be paid to small and medium-sized enterprises in the light of their importance for employment creation and export potential.

Further information and links:

- Website on "Exploratory Activities for a Consultative Task Force on Environmental Requirements and Market Access for Developing Countries" at www.unctad.org/trade_env/test1/projects/taskforce.htm
- Outcome of the Expert Meeting on Environmental Requirements and International Trade: www.unctad.org/Templates/meeting.asp?intItemID=1942&lang=1&m=4224
- Draft conclusions of the subregional workshop on environmental requirements, market access and export competitiveness for leather and footwear producers/exporters in Bangladesh, Cambodia, China, the Philippines, Thailand and Viet Nam, held in Bangkok from 19 to 21 November 2003 in the context of the UNCTAD project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues: www.unctad.org/trade_env/test1/meetings/bangkok5.htm

The UNEP-UNCTAD Capacity-Building Task Force (CBTF) on Trade, Environment and Development

The UNEP-UNCTAD Capacity-Building Task Force (CBTF) on Trade, Environment and Development aims to help beneficiaries, in developing countries and countries with economies in transition, to effectively address trade-environment-development issues at the national level and to participate effectively in related deliberations at the international level, through its five activity clusters — thematic research, country projects, training, policy dialogue and networking.

The overall objectives of the CBTF include:

- Providing assistance in understanding and responding to linkages between trade, environmental protection and economic development;
- Developing policies that maximize the net development gains from trade and trade liberalization;

- Meeting capacity-building needs of developing countries, in particular least developed countries (LDCs) and transition economies, relating to their effective participation in the WTO Doha Work Programme in the area of trade and environment; and
- Capturing "win-win" opportunities offered by trade and globalization, with special reference to the Plan of Action adopted at the World Summit on Sustainable Development (WSSD).

The CBTF, phase II, launched at the WSSD in Johannesburg, will implement regional and country programmes with special attention to Africa. The CBTF will also organize back-to-back events with WTO regional seminars on trade and environment.

In 2003, the CBTF organized two regional workshops held back to back with regional seminars of the WTO on trade and environment. On 22 May 2003, a CBTF workshop was held in Cape Town for English-speaking Africa. The workshop focused on the following subjects: (i) integrated assessment of trade policies; (ii) promoting production and trade in organic agricultural products; (iii) protecting and promoting traditional knowledge; and (iv) assessing capacity-building needs of English-speaking African countries.

On 27 and 28 November, 2003, a regional CBTF workshop was held for English-speaking Caribbean countries in Kingston, Jamaica. The workshop centred on the following themes: (i) integrated assessment of trade policies; (ii) environmental goods and trading opportunities for environmentally preferable products; (iii) fisheries subsidies; and (iv) developing a capacity-building programme on trade, environment and development for the Caribbean region. The workshop was organized in cooperation with the Institute for the Integration of Latin America and the Caribbean (INTAL) of the Inter-American Development Bank (IDB), the CARICOM secretariat and the Government of Jamaica.

Further information:

- UNEP-UNCTAD CBTF web site at
  www.unep-unctad.org/cbtf/
- UNEP-UNCTAD CBTF Workshop for Caribbean Countries Concept note and training module at:
  www.unep-unctad.org/cbtf/cbtf2/meetings.htm

The project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues

The project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues, funded by the UK Department for International Development (DFID), has assisted beneficiary developing countries in national policy-making and coordination as well as in their participation in the Doha work programme on trade and environment issues. Following a planning phase completed in December 2002, DFID agreed to fund two regional components: (i) Central America and Spanish-speaking countries in the Caribbean (Costa Rica, Cuba, Dominican Republic, Guatemala, Honduras, Nicaragua and Panama); and (ii) East and South-East Asia (Bangladesh, Cambodia, China, Philippines, Thailand and Viet Nam).

Activities

South and South-East Asia

Activities will mostly focus on national or subregional initiatives in the following areas:

- Collecting, processing and disseminating information on new environmental and health requirements in export markets and their key underlying trends and exploring the creation of warning systems at national or subregional level.
- Contributing to building institutional capacity on designing and implementing effective proactive adjustment strategies, both at national and subregional level, to (a) assess the potential impact of environmental measures taken by developed countries; (b) reduce adjustment costs and harness developmental benefits of higher environmental requirements, including for improving export competitiveness; and (c) become much more active in pre-standard-setting consultations in key export markets.
- In 2003, analytical work on environmental requirements and market access/penetration and export competitiveness focused on leather and footwear, as well as on electrical and electronic products. As regards leather and footwear, country case studies were prepared for Bangladesh, Cambodia, China, Philippines, Thailand and Viet Nam. On electrical and electronic products, country case studies were conducted for China, Philippines and Thailand. In 2004, country case studies will be prepared for horticultural products in Bangladesh, Cambodia, China, the Philippines and Viet Nam.

Project activities in Asia also include a training component for the LDCs and Vietnam. In 2003, national training workshops were held in Bangladesh and Cambodia on environmental requirements, market access/entry and export competitiveness for leather and footwear exports. A large number of private sector and local government representatives profited from these training workshops.

Central America and Caribbean

Project activities focus on two themes: (a) examining implications of trade liberalization in environmental goods and services (EGS);[4] and (b) market access for specific agricultural products, including trading opportunities for organic agricultural products.

EGS:

- To help beneficiary countries to participate effectively in WTO negotiations;
- To promote regional dialogues and identify national and regional interests in the area of EGS, for example with regard to classification and negotiating objectives;
- To explore strategies to strengthen national and regional capacities in certain EGS sectors.

Market access:

- Assist beneficiary countries in their participation in WTO discussions, in particular by promoting national and regional policy dialogues aided by concept papers, case studies and policy briefs.
- Identify policies and practices to assist Central American/Caribbean countries, including through regional cooperation, in strengthening their capacities to respond to environmental requirements in international and domestic markets and adopt proactive adjustment policies, and take advantage of trading opportunities for organic agricultural products.

These countries all expressed a strong interest in the linkages between environmental requirements and market access, including their export competitiveness and developmental implications.

Links and further information:

- The project section of the TED website at: www.unctad.org/trade_env/test1/projects/field.htm

B. Environmental goods and services

Trade liberalization in environmental goods and services (EGS) has potential benefits for developing countries, such as easier access to environmentally sound technology; more efficient resource use and associated improved environmental conditions; enhanced capacity for exports to comply with environmental requirements in international markets; and new export opportunities in some sectors. UNCTAD has been assisting developing countries in issues related to EGS through the promotion of policy dialogues (involving trade negotiators, policy makers in environment, trade and other ministries, regulatory authorities and other stakeholders) and studies.

Several experts participating in UNCTAD's TC/CB programme presented their national experiences in a recent Expert Meeting on Definitions and Dimensions of Environmental Goods and Services in Trade and Development" held from 9 to 11 July 2003 back to back with the Special Session of the WTO Committee on Trade and Environment. As outlined in the article entitled "Environmental goods and services: Challenges and opportunities for Central American and Caribbean countries" in the first part of this Review, a whole series of EGS studies and policy dialogues for several Central American and Caribbean countries has been implemented within the framework of the DFID-funded project, referred to in the previous section.

UNCTAD is also assisting interested developing countries in compiling lists of environmental goods that reflect their trade, environmental and developmental priorities. As current approaches in the WTO include few products of export interest to developing countries, this should help to work towards a more balanced outcome of the negotiations.

Further technical cooperation and capacity-building activities will focus on:

- In the area of environmental services: revision and completion of national studies on environmental services, as well as new studies; a comparative analysis of national experiences and an identification of issues of common regional interest in the services negotiations;
- In the area of environmental goods: support to the development of illustrative national and regional lists of environmental goods that represent developing countries' trade and sustainable development interest; and discussions on ways to promote markets for environment-friendly goods and services from developing countries, including outside the EGS negotiations.

Further information and links:

- Official website of the Expert Meeting at: www.unctad.org/Templates/Meeting.asp?intItemID=2283&lang=1
- All presentations and other papers at the Expert Meeting at: www.unctad.org/trade_env/test1/meetings/egs.htm
- Material of the workshops in Cuba, Nicaragua and Panama of the project on Building Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues at www.unctad.org/trade_env/test1/projects/field.htm
- Conference room paper on "Environmental goods: Trade statistics of developing countries". This paper supplements the analysis contained in TD/B/COM.1/EM.21 with a statistical overview of trade in selected environmental goods from 1996 through 2001. Special focus is given to examining the trade patterns of developing countries. Accessible at www.unctad.org/trade_env/test1/publications.htm

C. Environmentally preferable products

Growing environmental awareness in industrialized countries may create export opportunities for environmentally preferable products (EPPs) from developing countries, such as organic products, non-wood forest products (NWFPs), natural fibres, soaps colorants and others. Some developing countries have expanded their exports of several products with environmental and health attributes and have profited from changes in consumption patterns in developed countries. The challenge is now to increase the number of developing countries' enterprises that can turn this potential into practical financial, social and environmental gains. However, there is a realization that these benefits will mean addressing a number of challenges and constraints, including insufficient access to information, a lack of financial support, lack of knowledge and experience in the export business, insufficient government support for product promotion and technology dissemination, and absence of adequate national infrastructure.

The International Task Force (ITF) on Harmonization and Equivalence in Organic Agriculture

The International Task Force (ITF) on Harmonization and Equivalence in Organic Agriculture is a joint initiative of UNCTAD, the Food and Agriculture Organization of the United Nations (FAO) and the International Federation of Organic Agriculture Movements (IFOAM). It serves as an open-ended platform for dialogue between public bodies and agencies and private sector institutions/companies involved in trade and regulatory activities in organic agriculture, in order to facilitate international trade in organic agricultural produce. Besides exploring opportunities for harmonization, equivalence and mutual recognition of organic agriculture standards, regulations and conformity assessment systems, the Task Force discusses measures to facilitate access to organic markets, in particular by developing countries and smallholders.

More specifically, the Task Force will:

- Review the existing organic agriculture standards, regulations and conformity assessment systems;
- Build on the recommendations of the IFOAM/FAO/UNCTAD Conference on International Harmonization and Equivalence in Organic Agriculture (2002), and on the reviews mentioned above, to formulate proposals for the consideration of Governments, the Codex Alimentarius Commission, relevant bodies of FAO, UNCTAD and IFOAM and other appropriate organizations;
- Advise stakeholders and provide information on developments following discussions of proposals.

Task Force meetings were held in February and October of 2003. The October meeting reviewed draft discussion/background papers on:

- The current status of standards and conformity assessment systems;
- Current mechanisms that enable international trade in organic products;
- Existing general models and mechanisms for harmonization, equivalence and mutual recognition;
- The impact of organic guarantee systems on production and trade of organic products.

The meeting adopted a work programme until the next ITF meeting (likely to be held in summer 2004), which will focus on:

- The revision of the above studies;
- A new study on short- and medium-term options for equivalence and mutual recognition in four clusters (standard setting; certification; inspection; accreditation), including very practical measures;
- A new study on the evaluation of existing organic guarantee systems in relation to the provisions of the WTO TBT Agreement.
- Preparation of a survey on consumer perceptions of organic logos.

Links & further information:

- See "TOPICS" link at:
  www.unctad.org/trade_env/itf-organic

BIOTRADE Initiative

UNCTAD's BIOTRADE Initiative promotes trade and investment in biodiversity-based products and services in developing countries to further sustainable development.

The BIOTRADE Initiative helps developing countries and partner organizations to create an enabling environment for the development of biodiversity-related sectors by building partnerships with key public and private actors, promoting sustainable business ventures and providing inputs to policy-making.

BIOTRADE supports the establishment of regional BIOTRADE programmes and is assisting the development and implementation of national programmes in Bolivia, Colombia, Ecuador, Peru, Venezuela and Uganda. Most recently, a national BIOTRADE programme was launched in Bolivia. The programme seeks to promote "biotrade" with a particular focus on value chains for domestic and international markets. The programme forms part of the Bolivian National Poverty Alleviation Strategy.

This regional and country work is complemented by the BioTrade Facilitation Programme (BTFP), which provides practical assistance to Andean, Amazonian, African and Asian BIOTRADE partners in trade promotion of biodiversity-based products and services.

Further information and links:

www.biotrade.org

D. Other Issues

Mainstreaming the gender perspective in the promotion of international trade and sustainable development

The Millennium Declaration calls for more effective responses from the international community to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable. As trade can be a key instrument in promoting growth and development, it is essential to assess how trade and trade liberalization can best contribute to sustainable economic development that also leads to gender equality and the empowerment of women.

In response to this, UNCTAD has identified gender and trade as one of its focal issues for the forthcoming UNCTAD XI meeting, to be held in São Paolo, Brazil, in June 2004.

Additionally, the UN Inter-Agency Task Force on Gender and Trade was launched in July 2003 as the first step towards stronger inter-agency cooperation to strengthen thinking and action on gender and trade issues. UNCTAD, as the focal point agency for the UN system to deal with gender and trade issues, leads the inter-agency task force, which brings together the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the Office of the High Commissioner for Human Rights (OHCHR), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Development Fund for Women (UNIFEM), the UN regional commissions, the World Bank and the WTO. Other agencies and non-UN organizations will join the Task Force in the future.

At its first meeting (Geneva, 17-18 July 2003), the Task Force defined its main objective as that of sensitizing policy makers at the national and international level to issues and policies it identifies as important for achieving gender equality and development. Other objectives include the promotion of gender perspectives in national and international policies, global economic processes and trade agreements.

The task force members will undertake a wide range of activities, including impact analysis of international trade and investment agreements, socio-economic analysis of the linkages between trade and gender and analysis of institutional issues. It will also conduct capacity-building and advocacy activities such as training workshops for policy makers and economic actors. Additionally, the Task Force is working on a special event on gender and trade to be held at UNCTAD XI, as well as a joint publication on the topic, to be launched at that meeting. The International Trade Division is actively contributing to this publication, covering topics and case studies related to trade in services, trade in commodities, trade in textiles and trade and environment issues, all from a gender perspective.

In the TED Branch, the gender perspective is being taken into account, particularly in work related to environmentally preferable products, traditional knowledge and sustainable tourism.

Further information:

http://www.un-gender-trade.org

- Contact on mainstreaming gender issues at the International Trade Division: Dr. Nuria Castells, focal point (nuria.castells@unctad.org)

UNCTAD/Earth Council Carbon Market Programme

The Carbon Market Programme (CMP) is focused on the trade and investment impacts of the emerging climate regime and carbon market, with a particular emphasis on potential risks and opportunities available to developing countries. The CMP supports the establishment of public-private operational entities in developing countries, particularly in LDCs and countries with economies in transition in order to facilitate investments and maximize the sustainable development benefits of the Clean Development Mechanism (CDM), one of the "flexibility mechanisms" of the Kyoto Protocol of the UNFCCC.

The main objective is to promote developing countries' participation in the emerging carbon market through the use of clean technologies and by bringing together Governments, industry and civil society. The activities related to the implementation of CDM projects take into account the national circumstances of developing countries by supporting the establishment of projects that better suit each country's economic, social and environmental needs and conditions. The programme also develops research activities on various issues associated with the emerging carbon market. In addition, the CMP provides complementary learning opportunities to a global audience on the use of CDM through e-learning courses.

The main projects are: Engaging the Private Sector in CDM; Building Capacity for Designated National Authorities; Getting Started with CDM in Least Developed Countries; Supporting GHG Markets in Countries with Economies in Transition; Carbon Market E-Learning Centre (CMEC); CDM Challenges and Opportunities in the Rubber Commodity Sector; and Organization of the Petroleum Exporting Countries (OPEC) Study.

Further information and links:

www.unctad.org/ghg

Protection and promotion of knowledge, innovations and practices of indigenous and local communities

The importance of protecting the knowledge, innovations and practices of indigenous and local communities (TK) is increasingly recognized in international forums. TK-based products including handicrafts, medicinal plants, traditional agricultural products and NWFPs are traded in both domestic and international markets and already provide substantial benefits for exporter countries.

Possible instruments for the protection of TK include traditional/customary law, modern intellectual property rights instruments, *sui generis* systems, documentation of

TK and instruments directly linked to benefit sharing. In addition to national systems, the protection of TK and equitable sharing of the benefits derived from the use of biodiversity resources and associated TK may also require measures by user countries and cooperation at the multilateral level. To harness TK for development and trade, developing countries need assistance to build national capacities in terms of raising awareness of the importance and potential of TK for development and trade; developing institutional and consultative mechanisms on TK protection and TK-based innovation; and facilitating the identification and marketing of TK-based products and services.

In February 2004, UNCTAD and the Commonwealth Secretariat organized a workshop on "Elements of National Sui Generis Systems for the Preservation, Protection and Promotion of Traditional Knowledge, Innovations and Practices (TK) and Options for an International Framework". Some 80 participants with a range of perspectives and expertise (trade, environment, intellectual property, indigenous issues, enterprise development, and so forth) participated in their personal capacities as experts. They identified a number of possible actions which could be taken at a national level to meet the interrelated goals of preservation, protection and promotion for development of TK, and also discussed international dimensions.

Further information and links:

- See 'TOPICS' link at www.unctad.org/trade_env

E. Publications

The book ***Trade and Environment: Issues and Options for India***, explores the linkages between the objectives of liberalized international trade, globalization, protection of the environment and the promotion of the overall objective of sustainable development. There are many divergent views in India on the compatibility of trade and environment policies. This book is a first attempt to fill the information gap by developing an empirical base for understanding these linkages and the policy issues in the context of the Indian economy.

The book presents an anthology of essays by leading experts, government officials, researchers and practitioners. It analyses the impact on trade and development of environmental policies. At the same time it outlines several environmentally friendly practices in India. While the book tries to balance the challenges and opportunities for reconciling trade and environment policy-making in India, there is an underlying streak of optimism running through the essays. This book provides useful information to general readers and serious researchers on trade and environment issues. To policy makers, as well as advocacy groups, it provides an objective explanation of the linkages backed by empirical research.

- The book was launched in May 2003 and can be downloaded from: www.unctad.org/trade_env/test1/publications.htm

Trading Opportunities for Organic Food Products from Developing Countries. This project report provides a synthesis of studies and discussions on promoting trade in organic products in developing countries.

Several authors have combined to elaborate on production and marketing issues for producers, strengthening capacities to export organic products, and standards, certification and accreditation — including methods to reduce certification costs in developing countries. Implications for development, the environment and trade in selected developing countries are also examined.

Organic agricultural production is growing rapidly in developing countries, often without government subsidies. Certification is the key to promoting consumption and international trade with the advantage of price premiums. This report provides information on the certification process and means of enhancing production and export capacities in developing countries.

The authors conclude that organic products may open up new trading opportunities for developing countries, however, a number of constraints have to be overcome. Among these are the lack of information, insufficient awareness of commercial and environmental benefits of organic agriculture, lack of certification infrastructure, lack of qualified personnel and lack of domestic demand.

The book will appear soon and can be downloaded from: www.unctad.org/trade_env/test1/publications.htm

The book entitled ***The Organic Guarantee System – The Need and Strategy for Harmonisation and Equivalence*** **is** but one of the many outcomes of the Conference on International Harmonisation and Equivalence in Organic Agriculture organized in February 2002 by the International Federation of Organic Agriculture Movements (IFOAM), in cooperation with the Food and Agriculture Organization of the United Nations (FAO) and UNCTAD. This publication includes many contributions from the original Conference Reader (edited by Willie Lockeretz and Gunnar Rundgren) as well as a considerable amount of new material from presentations made at the conference. It shows the wide spectrum of topics involved in the process of harmonizing organic guarantee systems as well as different approaches to the subject. The result is a comprehensive publication for all stakeholders in the various fields connected with organic guarantee systems. As most articles are based on the Conference Reader, it is important to note that they are updated as of February 2002. The information in this book will be drawn upon by the IFOAM/FAO/UNCTAD Task Force on Harmonisation and Equivalence in Organic Agriculture, which began its work in February 2003.

- The book can be downloaded from:
  www.unctad.org/trade_env/test1/publications.htm

The paper on ***Science and Technology Diplomacy*** elaborates the conceptual basis and elements of a programme of work on science and technology diplomacy for UNCTAD. This programme is being developed in accordance with resolution 2001/31 of the United Nations Economic and Social Council (ECOSOC), adopted in July 2001, following recommendations of the United Nations Commission on Science and Technology for Development (UNCSTD) and consultations with the Secretary-General of UNCTAD. This paper has been prepared in consultation and collaboration with Calestous Juma, Profes-

sor of the Practice of International Development and Director of the Science, Technology and Innovation Program at Harvard University's Kennedy School of Government.

- The paper can be accessed at:
  www.unctad.org/trade_env/test1/publications.htm

The book entitled ***Organic Fruit and Vegetables from the Tropics*** provides producers and trading companies with (i) information on market potential and conditions for access to European, American and Japanese markets for organic products; (ii) details of production and processing requirements as well as best management practices for a selection of organic tropical fruits and vegetables; and (iii) a list of useful addresses and contacts in selected European, American and Japanese markets.

- The book can be downloaded from
  www.unctad.org/en/docs//ditccom20032_en.pdf

The study entitled ***The New Bioeconomy*** is a spin-off of an ad hoc expert group meeting on Industrial and Environmental Biotechnology and its Implications for Trade and Development, held in Geneva in November 2001. The study argues that the confluence of modern biotechnologies and the market niches that they occupy point to the emergence of a "bioeconomy". Sustaining a new bioeconomy entails the adoption of a global governance regime for biotechnology so as to bring a large number of developing countries into the global trading system. Failure to do so will create a "genetic divide" among countries and is likely to intensify public opposition to biotechnology. Such opposition is likely to be fuelled by presumptions about possible market dislocation and apparent features of technological disparities between nations. The elements of such a governance system include improvements in market access, development of technological capabilities, access to technology, national regulation of biotechnology, and the management of risks and benefits associated with its use.

- The study can be downloaded from:
  www.unctad.org/trade_env/test1/publications.htm

The study entitled ***Making FDI Work for Sustainable Development: Integrating into Foreign Direct Investment,*** by UNCTAD and the European Business School examines starting points for improved integration of environmental considerations into foreign direct investment (FDI) activities, from the perspective of German companies investing in developing countries. The underlying assumption is that FDI can accelerate the diffusion of modern, eco-efficient management know-how, technologies and their spillovers, and thereby contribute to sustainable development.

One of the main conclusions of the study was that environmental requirements pose no obstacle to FDI. Environmental management can, in fact, help to develop advantages for elaborating guidelines for the integration of environmental aspects into FDI.

The report provides a review of the environmental impacts of FDI and the strategies and behaviour of TNCs. The concluding recommendations discuss some means for integrating environmental aspects into international agreements on investment and for im-

plementing international environmental agreements. They also cover global transparency in environmental reporting and the greening of the supply chain.

- The report can be downloaded from www.unctad.org/trade_env/.

The monograph on ***Energy and Environmental Services: Negotiating Objectives and Development Priorities*** (UNCTAD/DITC/TNCD/2003/3) New York and Geneva, 2003, is a follow-up to two UNCTAD Expert Meetings on: Energy Services in International Trade: Development Implications, held in July 2001; and on Strengthening Capacities in Developing Countries to Develop their Environmental Services Sector, held in July 1998. The book provides insights and analysis of the negotiating positions taken by the WTO member countries on energy and environmental services within the ongoing GATS negotiations. Readers will get a better understanding of what is at stake in the negotiations by learning about the business trends, the major market players and the national strategies in these two service sectors, which have a huge economic value and immediate links with economic growth and investment, country competitiveness and, ultimately, sustainable development. The contributions on energy services discuss how increasing demand for investment, the introduction of new technologies and the liberalization of the energy markets have created a new dynamism in this sector and opened the way to the delivery and cross-border trade of an increasing number of energy services. On the other hand, they also highlight the plight of one third of humanity, mainly in the rural areas of poor countries, who still has no access to commercial energy sources. The papers present also the successful experiences in some energy-producing countries in developing domestic capacities in the energy services sector as a central element in their development strategies. The contributions on environmental services analyse how this sector, which went through deregulation and privatization, is now offering lucrative business opportunities for services providers. The papers highlight the efforts that should be made to link the growing dynamism of the sector, resulting from its structural reform and emerging as well from the WTO Doha Work Programme, to the fulfilment of people's basic environmental needs, especially in developing countries.

A Round Table was organized on 5 June 2003 for the launching of the book. Mr. Ricupero, Secretary-General of UNCTAD, Mr. Sharonov, Deputy Minister of Economic Development and Trade of the Russian Federation, and Mr. João Luis Aguiar Machado, Chief Services Negotiator of the EC Commission, participated in the Round Table.

- The monograph is accessible at: www.unctad.org/en/docs//ditctncd20033_en.pdf

Notes

[1] For a more elaborate overview, see UNCTAD's technical cooperation/capacity-building programme on trade, environment and development (TD/B/WP(XLI)/CRP.1), Geneva, 15 September 2003, accessible at www.unctad.org/Templates/Meeting.asp?intItemID=2250&lang=1.

[2] It is important to distinguish between market access and market entry. While the *possibility* of entering foreign markets depends on market access conditions (determined by the legal and administrative conditions imposed by the importing countries under internationally agreed trade rules), the *ability* to enter a market is a function both of the competitiveness of the exporter (determined by the relative cost and quality of the product, including environmental/health as-

pects), and of the characteristics of supply chains and the structure of markets. Thus, market access is a prerequisite for market entry to occur, but is not sufficient. An important difference between market access and market entry conditions is that while market access conditions in principle are subject to international jurisdiction under WTO rules, market entry conditions are not and producers have to conform to them or lose the opportunity to enter markets. For more information, see: Market entry conditions affecting competitiveness and exports of goods and services of developing countries: Large distribution networks, taking into account the special needs of LDCs (TD/B/COM.1/EM.23/2), Background Note of the UNCTAD secretariat, accessible at: www.unctad.org/Templates/meeting.asp?intItemID=2286&lang=1&m=6036&info=doc.

[3] The CTF will not only be restricted to environmental requirements, because in practice it is often difficult to distinguish between environmental and health requirements. The excessive use of agrochemicals, for instance, is a health concern for consumers, but also an environmental concern for producers. Such cases will also be covered by CTF activities.

[4] For an overview of the preliminary results of the project activities on EGS, see the article entitled "Environmental goods and services: Challenges and opportunities for Central American and Caribbean countries" in the first part of this Review.