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Preface

This proceeding is in implementation of the ESCWA Economic Development Issues and Policies Division (EDIPD) work programme for the biennium 1998-1999. It is the proceedings of the Expert Group Meeting on Trade and Environment held in Beirut from 2 to 4 November 1999. Several individuals, consultants, as well as national, regional and international organizations contributed to the meeting. We owe them special thanks, particularly MedPolicies Initiative of the Harvard Institute for International Development and Carol Chouchani; UNCTAD, the Trade and Environment Section and its Chief Rene Vossenaar; WTO and Alexander Keck; UNEP Regional Office in the Middle East, and its Director, Yousef Abdul Raheem; Mohsen Helal, the Regional Advisor on WTO issues in ESCWA; Hosni Khordagui, the Regional Advisor on Environment in ESCWA; El-Sayeda Ibrahim Moustafa for her valuable contribution; and the consultants Veena Jha, Magda Shahin, Hussein Abdallah, Tarek Genena and Riad al Khouri for their valuable inputs to the meeting and the discussions.

CONTENTS

Page

Preface iii
Abbreviations vi
Introduction 1

PART ONE
MEDPOLICIES INITIATIVE

Paper One INTRODUCTION TO THE MEDPOLICIES INITIATIVE OF THE MEDITERRANEAN ENVIRONMENTAL TECHNICAL ASSISTANCE PROGRAM
Carol Chouchani 5

Paper Two ESTIMATING THE IMPACT OF MORE STRINGENT ENVIRONMENTAL REGULATIONS ON EXPORTS IN THE MEDITERRANEAN REGION: A SYNTHESIS OF THE MEDPOLICIES CASE STUDIES
Bruce A. Larson 8

Paper Three THE EFFECT OF ENVIRONMENTAL LEGISLATION ON FERTILIZER EXPORTS: THE CASE OF JORDAN
Yusuf Mansur 19

PART TWO
IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO TRADE AND ENVIRONMENT COMIITTEE ON TRADE IN ESCWA MEMBER COUNTRIES

Section One **GENERIC ISSUES** 45

Paper One THE TRADE AND ENVIRONMENT DEBATE
Rene Vossenaar 47

Paper Two A WTO PERSPECTIVE ON TRADE AND ENVIRONMENT
Alexander Keck 60

Paper Three TRADE AND ENVIRONMENT: SEATTLE AND BEYOND
Magda Shahin 63

Paper Four GREEN DILEMMAS OF THE ESCWA REGION: MEAs IN THE TRADE AND ENVIORNMENT DEBATE
Veena Jha 72

Paper Five THE IMPACT OF THE ISSUES NEGOTIATED IN THE COMMITTEE OF TRADE AND ENVIRONMENT FOR THE ESCWA MEMBER COUNTRIES: THE CASES OF EGYPT, JORDAN AND LEBANON
Christine Rita Fakhoury 93

Paper Six FREE TRADE AND THE ENVIRONMENT IN THE FRAMEWORK OF THE EURO-MEDITERRANEAN PARTNERSHIP
Arab Hoballah 107

CONTENTS (*continued*)

		Page
Section Two	**CASE STUDIES**	111
Paper One	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF OIL IN GCC COUNTRIES Hussein Abdallah	113
Paper Two	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF MINING SECTOR IN JORDAN Riad al Khouri	133
Paper Three	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF AGRO-FOOD INDUSTRY IN LEBANON Fadi Atallah	150
Paper Four	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF THE TEXTILE INDUSTRY IN SYRIA Fadi Atallah	159
Paper Five	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF THE PACKAGING PRACTICE IN EGYPT Tarek Genena	167
Paper Six	IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF THE LEATHER INDUSTRY IN SYRIA Riad al Khouri	177
Section Three	**RECOMMENDATIONS**	189
Annex.	Final report of the expert group meeting and list of participants	201

ABBREVIATIONS

CAMRE	Council of Arab Ministers Responsible for the Environment
CBD	Convention on Biological Diversity
CIDA	Canadian International Development Agency
CITES	Convention on International trade in Endangered Species
CTE	Committee for Trade and the Environment
EAPE	Environmental Action Plan for Egypt
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
ESCWA	Economic and Social Commission for Western Asia
ESTs	Environmentally Sound Technologies
EU	European Union
FDA	Federal Drug Association
FDI	Foreign Direct Investment
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariff and Trade
GCC	Gulf Cooperation Council
GMOs	Genetically Modified Organisms
GTZ	German Agency for Technical Cooperation
ISO	International Standardization Organization
MAP	Mediterranean Action Plan
MCSD	Mediterranean Commission for Sustainable Development
MEAs	Multilateral Environmental Agreements
MENA	Middle East and North Africa
MFN	Most Favored Nations
NT	National Treatment
OECD	Organization of Economic Cooperation and Development
SCM	Subsidies and Countervailing Measures
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
TRIPs	Trade Related Aspects of Intellectual Property Rights
UNCED	United Nations Conference on Environment and development
UNEP	United Nations Environment Programme
WTO	World Trade Organization

Introduction

It is a known fact that the relationship between the World Trade Organization (WTO) and Multilateral Environmental Agreements (MEA) and the issues addressed by the WTO Committee on Trade and Environment (CTE) are areas of differences and divergence between developed and developing countries. It is also a known fact that trade and environment issues are not only complex but also multifaceted. They involve different stakeholders and different public and private interest groups.

This volume addresses the issues of trade and environment which are currently of concern to the region under two broad headings: first the broad issues of trade and environment for policy makers, and the second, implications of the recommendations of WTO Trade and Environment Committee for the economies of the member countries in the region.

The first part was the contribution by MedPolicies Initiative of the Mediterranean Environmental Technical Assistance Programme in the Harvard Institute for International Development. This part discusses the phases of the MED Policies Initiative programme in the region regarding trade and environment concerns; prioritization of sectors with potential problems, and creating policies that support sustainable development. This part includes the following four headings: "Introduction to the MedPolicies Initiative of the Mediterranean Environmental Technical Assistance Program"; "Estimating the Impact of More Stringent Environmental Regulations on Exports in the Mediterranean Region: A Synthesis of the MedPolicies Case Studies"; "Introductory Presentation to the Jordanian Case Study"; and, "The Effect of Environmental Legislation on Fertilizer Exports: The Case of Jordan".

The second part deals with the possible implications of the CTE recommendations and issues under negotiation on the ESCWA member countries. The part itself is composed of three parts.

The first deals with the generic issues related to trade and environment. It addresses specifically the issues relating to the work of the CTE and tackles their issues both globally, regionally and nationally. The papers presented cover the current trade and environment data, the WTO perspective on trade and environment, the issues of concern under trade and environment that are likely to be discussed in the third Ministerial Meeting in Seattle in December 1999, the implications of the Multilateral Environmental Agreement for the current trade and environment debate, and the impact of the issues discussed in the Committee on Trade and Environment for the ESCWA member countries based on case studies for Egypt, Jordan and Lebanon.

Part two is composed of seven case studies. These case studies consider the implications of the CTE recommendations on several strategically important export products and activities in the member countries. The products and the countries selected include oil products for GCC countries, the mining sector in Jordan, the agro-food industry in Lebanon, the packaging industry in Egypt, the textile and the leather industry in the Syrian Arab Republic. The analysis in each case is structured around the main terms of reference of CTE.

Part three includes two sets of recommendations formulated by the meeting. The first consists of those recommendations which were amalgamated with the recommendations formulated in the "Arab Regional Symposium on Trade and Environment" held in Cairo in September 1999. These recommendations were transmitted to the Arab delegates participating in the WTO Third Ministerial Meeting in Seattle, USA in December 1999. The second set of recommendations were made for the benefit of the member countries.

Finally, the papers and the conclusions included in this volume were presented to the Expert Group Meeting held jointly between ESCWA and MedPolicies Initiative of the Harvard Institute for International Development with active support from UNCTAD, Trade and Environment Section, WTO, Technical Assistance Division, and UNEP Regional Environment Programme. The meeting was held from 2 to 4 November 1999 and the report of the meeting together with the list of participants are in the annex.

PART ONE
MEDPOLICIES INITIATIVE

INTRODUCTION TO THE MEDPOLICIES INITIATIVE OF THE MEDITERRANEAN ENVIRONMENTAL TECHNICAL ASSISTANCE PROGRAM

Carol Chouchani Cherfane
Regional Coordinator
METAP III MedPolicies Initiative
Harvard Institute for International Development

Introduction

There are many different ways of defining the trade and environment debate.

Environmentalists see it as an inverse relationship whereby increased trade generates more economic activity and more consumption, which "*de facto*" causes a worsening of environmental conditions. They believe that the environment takes precedence over economic growth. Extremists might even argue that the only way to protect the environment is by limiting economic growth and reducing international trade flows.

Industrialists examine the relationship from the opposite direction. They see compliance with environmental regulations as highly costly and stifling for economic activity. They claim that increased environmental protection reduces trade flows. Some industrialist - and many macroeconomists - might also argue that a country needs the revenue from increased economic growth and trade to be able to afford the cost of complying with more stringent environmental standards. The environment, in these terms, is a luxury, not a necessity.

The MedPolicies Initiative takes a different perspective. In our work, we seek to present a moderate way of examining trade and environment relationships. This can be illustrated with the following three points.

First, there are challenges and opportunities associated with environmental regulations that impact trade.

For instance, a new environmental regulation adopted in Europe effecting textile production may impede the import of certain shirts from an Egyptian producer who is conducting business as usual. However, this regulation may benefit a Lebanese textile producer - or even another Egyptian producer - who has already incorporated this regulation into his production process. Producers can thus increase their exports and revenues by complying with more stringent environmental standards when others have not.

Second, the cost of compliance with new environmental regulations is usually not as costly as producers might think.

As Dr. Bruce Larson of the MedPolicies Initiative will soon discuss in more detail, the cost of compliance is often less than 1% of revenues, not 30% or 40% as many producers might think. Accordingly, the challenge associated with complying with more stringent environmental standards is often due to a lack of information and understanding regarding real costs, not a lack of financial resources.

Third, the high cost of environmental compliance is often caused by a lack of information and poor policy planning.

In other words, if producers are informed of a new environmental standard well enough in advance so as to assess real costs, and if compliance with that regulation is perhaps made on a graduated scale or is complemented with an incentive program, producers can view compliance as an investment, not as an economic loss. This is not to say that there are not problems associated with adopting new production processes or incorporating new technologies, but there are ways to overcome these difficulties with sufficient information and a long enough time horizon. There is also the likelihood of identifying low-cost ways of complying with new environmental standards if there is enough time given to find them.

The MedPolicies Initiative

The MedPolicies Initiative seeks to bridge the information gap and facilitate policy coordination on trade and environment issues. We do so by assisting decision-makers and private sector stakeholders:

- Identify trade and environment concerns;
- Prioritize sectors with likely problems;
- Create policies that support sustainable development.

The perspective of the MedPolicies Initiative casts trade and environment issues in terms of "environmental compliance" and "international competitiveness." In this way, we involve ministries of economy, environment, trade, and planning, as well as the various line ministries responsible for managing imports and exports in the policy debate. Private sector stakeholders and non-governmental organizations also contribute to the discussion via policy groups that discuss case study findings and propose recommendations.

Phase I: Single-Sector Assessments

During our first project phase from 1997-1999, the MedPolicies Initiative completed seven single-sector case studies on trade and environment issues. We did so by providing technical support and advisory services to ministerial officials and a locally based non-governmental lead analyst in each country who was responsible for conducting the case study. Textile or leather exports were the focus of case studies conducted in Syria, Turkey, Morocco, and Egypt. Agricultural exports were addressed in Cyprus and Tunisia. Phosphate-based fertilizer exports were examined in Jordan (see Table 1).

The MedPolicies Initiative also sponsored case studies on two other environmental and economic themes during its first phase. The relationship between privatization and environmental management was examined in Albania, Croatia, and Slovenia. The social and economic aspects of improved air quality was the subject of case study work conducted in Algeria, Lebanon, and Palestine.

TABLE 1: MEDPOLICIES INITIATIVE CASE STUDIES (PHASE I)

Theme	*Country*	**Case Study Topic**
Trade	Cyprus	Impact of Higher Water Prices and the EU Nitrate Directive on Cypriot Potato Exports
Trade	Egypt	Impact of Environmental Regulations on the Egyptian Leather Sector
Trade	Jordan	Impact of EU Environmental Regulations on Jordanian Fertilizer Exports
Trade	Morocco	Impact of New Effluent Standards on Moroccan Textile Exports
Trade	Syria	Impact of Environmental Regulations on Syrian Cotton and Cotton Textile Exports
Trade	Tunisia	Impact of Environmental Regulations on Tunisian Agricultural Exports
Trade	Turkey	Impact of Environmental Regulations on Turkish Leather Exports
Privatization	Albania	Mechanisms for using Environmental Liability in the Privatization of Polluting Industries
Privatization	Croatia	Opportunities for Private Sector Participation in the Management of Croatian Solid Waste Services
Privatization	Slovenia	Communal Infrastructure: Investment Needs and Policies for Stimulating Private Sector Participation
Air Quality	Algeria	Social and Economic Impacts of Industrial Air Pollution from the Ghazaouet Plant
Air Quality	Lebanon	Social and Economic Impacts of Mobile Source Pollution on Public Health in Greater Beirut
Air Quality	Palestine	Social and Economic Impacts of Industrial Pollution from Stone-Crushers in the West Bank

Phase II: Multi-Sector Assessments

Now it our second phase, the MedPolicies Initiative is looking at trade and environment issues from a multi-sector perspective. Accordingly, rather than examining one sector in the economy, we are conducting a comparative analysis of the sensitivity of a country's principal exports and imports to changes in environmental regulation. This "rapid assessment" of trade and environment issues is being done to assist

policy-makers prioritize which sectors are most sensitivity to trade and environment concerns. These studies are currently underway in Morocco, Tunisia, Algeria, Egypt, Syria, and Jordan. Trade and environment work that builds upon the Phase I case study activities is also being supported in Turkey and Cyprus. Dr. Larson, the MedPolicies Coordinator on Trade and Environment, will discuss these activities in more detail.

Background

First, please allow me to provide you with some more background on the MedPolicies Initiative.

The MedPolicies Initiative is a project funded by the World Bank under the auspices of the Mediterranean Environmental Technical Assistance Program (METAP). METAP is a joint initiative of the World Bank, the United Nations Development Program, the European Union, and the European Investment Bank. METAP seeks to build environmental capacity and increase environmental investment in the Mediterranean region.

The Harvard Institute for International Development (HIID) at Harvard University is responsible for administering the MedPolicies Initiative on behalf of the World Bank and its METAP partners. We work in thirteen countries in the Mediterranean basin (Albania, Algeria, Croatia, Cyprus, Egypt, Jordan, Lebanon, Morocco, Slovenia, Syria, Tunisia, Turkey, and the West Bank and Gaza.). We coordinate our activities with national governments and international organization such as ESCWA and the Mediterranean Commission on Sustainable Development, of which Mr. Hoballah spoke about earlier today. We administer the project through our offices in Cambridge, Massachusetts in the United States and via the MedPolicies Forum, which is based here in Beirut, Lebanon. Within the next year, the MedPolicies Forum will serve as a base for providing technical assistance and policy support on trade and environment issues to the region. In this way, we hope to better serve the needs of regional policy-makers, private industry, and non-governmental organizations as we tackle this increasingly important global issue.

With that I will turn the floor to Dr. Bruce Larson, the MedPolicies Initiative Coordinator on Trade and Environment. Dr. Larson is a development economist and a professor of economics who has worked extensively in the environmental arena for the past 12 years. He has worked in Russia, Eastern Europe, Latin America, North Africa, and the Middle East on environmental economic issues. Dr. Larson will share with you the analytical framework and case study findings of MedPolicies activities on trade and environment.

In order to provide you with an example of the case studies the MedPolicies Initiative completed during its first project phase, Dr. Larson's overview will be complemented by a presentation by Dr. Yusuf Mansur. Dr. Mansur was part of the lead analyst team in Jordan who conducted the single-sector case study on the effect of environmental regulations on Jordanian phosphate-based fertilizer exports. Formerly a professor of economics and Director of the Technical Support Unit at the Jordanian Ministry of Planning for UNDP, Dr. Mansur now heads the Telecommunications Regulatory Commission in Jordan and has worked extensively on environmental and economic issues for the past ten years.

For more information on the MedPolicies Initiative, please contact the Harvard Institute for International Development.[1]

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ESTIMATING THE IMPACT OF MORE STRINGENT ENVIRONMENTAL REGULATIONS ON EXPORTS IN THE MEDITERRANEAN REGION: A SYNTHESIS OF THE MEDPOLICIES CASE STUDIES

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Abstract

While the impacts of domestic and foreign environmental regulations on export competitiveness is widely discussed in the non-EU Mediterranean region, there has been little empirical analysis of how more stringent environmental regulations might affect exports of key sectors in the future. To begin to fill this gap in analysis, this paper summarized the results of six case studies completed during 1998-1999 that estimate the impact of potential changes in environmental regulations on exports from a key sector in each country (Cyprus, Tunisia, Jordan, Morocco, Turkey, and Syria). These case studies, which are based on a theoretically consistent yet empirically tractable modeling approach, suggest that a range of outcomes are likely and depend on a fairly small set of specific information. For some of the cases, expected regulatory changes would probably have little impact on exports, while in other cases the impacts could be substantially larger.

1. Introduction

Do environmental regulations, either domestic regulations or regulations in export markets, affect a country=s exports? While a seemingly simple question, the >conventional wisdom= in the economics literature and the >real world= seem to be at odds. Concerning the conventional wisdom, for example, Jaffe, *et al.* (1995, p. 157) conclude that: Overall, there is relatively little evidence to support the hypothesis that environmental regulations have had a measurably adverse effect on competitiveness. ....@ Of course the Jaffe, *et al.* (1995) article does not consider agriculture and natural resources and resource-based industries, which are the major types of exports from most developing countries.

In the real world, examples of environmental regulations affecting trade in extreme ways are commonly observed. The EU ban on US beef imports is one obvious example, as is the history of tuna import restrictions in the US due to dolphin concerns (and sea turtles and shrimp). In sum, a number of international trade disputes have been generated due to the impact on exports from the use of various product standards promulgated in either the name of environmental protection (which includes the physical health of domestic consumers) or as attempted non-tariff trade barriers to protect domestic industry.

Besides such >real world= extreme examples noted above, there is some newer evidence based on historical data that the relationship between environmental policy and a country=s international trade is not necessary as benign as implied by Jaffee, *et al* (1995) and others for all sectors of the economy. For example Van Beers and Van den Bergh (1997) show that there is no significant relationship between environmental regulatory strictness and trade flows for Aresource based@ sectors, while there is a significant and negative relationship for Anon-resource based@ sectors.

Concerns about the effects of environmental policy on trade competitiveness continues to grow in north Africa, the Middle East, and elsewhere (e.g. Turkey, Cyprus, etc.) as >partnership= agreements with the EU are

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negotiated and completed and with the meetings of the World Trade Organization in Seattle during December 1999. For example, the Arab League held meetings on the topic in Cairo, Egypt during September 1999, while the United National Economic and Social Commission for West Asia (ESCWA) held meetings on the topic in November 1999 in Beirut, Lebanon. It is not uncommon for >trade and environment= committees to exist at the national level (e.g. in Egypt) and for members of environmental authorities to assign staff to be responsible for >trade and environment=(e.g. in Lebanon, Tunisia, Egypt, Morocco, etc.).

To support an improved awareness and understanding the links between environmental policies and international competitiveness, the MedPolicies Initiative of the METAP Project supported the completion of several country- and sector-specific case studies that analyzed the impact of specific changes in environmental regulations (actual and proposed) on exports from key sectors of the economy. While the main purpose of the case studies was to increase awareness of the potential issues within the countries and to build capacity to support analysis of such issues, the completed case studies provide a wealth of practical experience on the types of environmental policy issues that are likely to impact on exports in the future in the non-EU Mediterranean region.[2]

Given that several of the case study reports are long with substantial amounts of additional detail not directly related to the core topic, the main purpose of this paper is to summarize the analytical approach used and synthesize the results of six country- and sector-specific MedPolicies Trade and Environment Case Studies. The remainder of this paper is organized as follows. Section 2 provides a brief introduction to the individual case study topics from each country (Cyprus, Jordan, Syria, Tunisia, Morocco, and Turkey), identifying the sector of focus and the environmental regulatory issues studies. This overview shows the wide range of existing and likely policy changes that are affecting exports in the region now and are likely to affect exports and imports in the future.

Since the case studies (except Turkey) use a common methodological approach developed in Larson (2000), Section 3 and Appendix A provide a short introduction to the empirical models used in the case studies. As an extension of the basic export models in Larson (2000), Appendix B also shows how this framework can be adjusted to analyze the impacts of environmental regulations on imports (both consumption goods and factors of production). Section 4 presents the core results for the six case studies (summarized in Table 7) and synthesizes the implications of these results for understanding when the impact of environmental regulations are exports is likely to be large and when it is likely to be small.

2. Overview of the Country-Specific Case Study Topics

This section summarizes the case study topic for each country and then provides some additional background on the specific issues.[3] While this section is intended to be brief, the case study topics indicate the type of detailed environmental policy issues that are likely to affect exports competitiveness now and in the future. For each country, the specific case study question is identified and then some brief supporting background material is provided.

Cyprus: What would be the likely impact of higher irrigation water costs on production and exports of fresh potatoes?

Agriculture is an important sector in the economy of Cyprus. Agricultural commodities and various processed food products account for 35-40 percent of total exports. Potatoes are the most important export crop. Since the early 1990s, they have accounted for half or more of the total value of agricultural exports.

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[2] For reference, the MedPolicies Initiative includes 13 non-EU countries in the Mediterranean region and supported case studies on three topics (trade and environment, air pollution, and environmental liability and privatization). This paper is focused exclusively on the trade and environment case studies. While there are a wide range of topics within the general topic of 'trade and environment,' a general consensus was reached at the project's Ljubljana meeting during November 1997 to focus the case studies on the impacts of changed environmental regulations on exports.

[3] Unless otherwise noted, all information contained in this section comes directly from the relevant case study report.

Most of the potatoes grown in Cyprus. The principal foreign markets are member countries of the European Union (EU). Cyprus applied for EU membership in 1990, but negotiations did not begin until early 1998. Full accession will involve, among other things, adopting EU environmental legislation. This could be problematic, especially in the case of water pricing policies.

Cyprus has suffered chronic water shortages for decades. Agriculture, and potato farming in particular, has probably added to the stress on available water supplies. One hundred percent of Cyprus=s potato farmers rely on irrigation, and irrigation accounts for 70-75 percent of water consumption on the island.

Farmers receive irrigation water at a highly subsidized rate. The average charge for irrigation waterC$0.13/ m^3Cis 34 percent of the estimated full-cost recovery level. This stands in contrast to the EU=s proposed framework directive on water policy, which calls for full-cost recovery for water supplied to all users, including farmers. It directs that the price of irrigation water should be high enough to cover all of the following: O&M (operations and maintenance) costs; repair costs; loan payments; and a sinking fund for improvements and extensions.

Higher water charges could create an incentive for more efficient water use by potato farmers, but most farmers already employ advanced irrigation technologies. The efficiency of water-use is estimated to be 85 percent of the maximum possible. Although irrigation charges are only one of many costs involved in potato farming, farmers fear that the limited scope for improved water use efficiency implies that higher water charges would inevitably push up their production costs and cause them to lose customers in the European market. Potatoes from Cyprus are high-quality and command an above-average price, but they face increasing competition from potatoes exported by lower-cost Mediterranean producers.

Jordan: What would be the impact of removing cadmium in phosphoric acid (P_2O_5) on exports of fertilizers?

The mining sectorBmainly phosphate and potashBis a key sector of the Jordanian economy, which accounted for 7.5% of the GDP, about 7% of the industrial labor force, and about 36% of total exports as of 1996. While there are currently four main phosphate mines in Jordan, the large and relatively new Shidiya mine has known reserves of 1.5 billion tons (annual mined output is less than 9 million tons). As of 1996, about 97% of total fertilizer output (phosphate, potash, and manufactured fertilizers using these materials) were exported with a value of about US$542 million. The Jordanian Phosphate Mining Company, which holds monopoly mining rights for phosphate that are renewed every 30 years, exported almost $359 million in 1996, split roughly 50/50 between phosphate rock and manufactured fertilizers (e.g. DAP).[4] Main export markets are in the EU and Asia.

There are two potential environmental concerns facing Jordanian fertilizer exports in the future due to the natural characteristics of phosphate reserves: cadmium content in mined phosphate rock; and radioactivity content in the mined phosphate rock. Both of these environmental concerns are passed along to the production of P_2O_5 and then DAP.[5] Since the European countries and other locations have lowered the allowable cadmium content in fertilizer products over the past years, with the most stringent requirements found in Norway, Finland, Sweden and Switzerland.

The phosphate that is currently extracted from the Shidiya mine and to be extracted in the future has high enough cadmium levels to be of potential concern for the JPMC. Since the current strategy of the JPMC is to focus production of the phosphate rock in the Shidiya mine, the removal of cadmium will probably become a management concern in not-too-distant future.

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[4] Rock phosphate is used in the production of phosphoric acid (P_2O_5), which in turn is a key input in the chemical fertilizer industry (di-ammonium phosphate–DAP). By products of P_2O_5 production include various types of air pollution in the evaporation process as well as solid waste known as phosphogypsum, which contains some levels of radioactivity.

[5] Cadmium is a rare metal that has no known separate ore deposits but is usually explored as a byproduct of certain zinc, lead or copper ores. It is basically non-essential to humans, animals and plants, and may present significant environmental risks. Anemia, bone pain, deformities and renal failure may result from high cadmium content in the environment.

The total removal of cadmium from rock phosphate directly is considered technically impractical and uneconomic. However, there are several processes being developed for the complete or total removal of cadmium from phosphoric acid, including: co-crystallization of cadmium with anhydride (estimated cost is US$8 per ton), precipitation of cadmium with sulfides (estimated cost is US$15 per ton), ion-change resins (estimated cost is US$35 per ton), and solvent extraction (estimated cost is US$26 per ton). These costs do not include any domestic disposal cost associated with managing the solid waste (e.g., the cadmium). With P_2O_5 prices in the range of $219 per ton in 1997, these additional cadmium removal costs represent between 2.5-10% of P_2O_5 prices. Given that P_2O_5 is a key input into the production of DAP, the Jordanian case study investigates the likely impact of a P_2O_5 price increase (range 2.5-10%) on the production and exports of DAP.

Morocco: What would be the impact on production and export of textile products if new and modest water effluent standards (BOD) for the sector were developed and enforced?

Textiles are a key sector of the Moroccan economy, accounting for almost 30% of all industrial enterprises located mainly in Casablanca, Fez, Rabat, Settat and Marrakech. The sector of almost 1400 facilities involves four related production segments (la filature, le tissage, le finissage et la confection). As of 1996, total textile exports were about 13 billion dirhams, with almost 70% of total exports destined for Europe. Confection, however, accounted for over 55% of the value of total production and almost 81% of total textile exports (about 10.4 billion dirhams as of 1996).

The government of Morocco is currently in the process of developing water effluent standards for various industries in the country, with biological oxygen demand being identified as a likely pollutant to be regulated in the textile sector (mainly due to effluents in the dying stage). Existing estimates in Morocco of total BOD5 levels in water effluent could be between 26,000 - 58,000 tons per year, with the textile sector accounting for perhaps 3,900 - 8,700 tons per year. Based on existing estimates of BOD5 control costs per ton, the Moroccan case study considers the impact on production and exports of textiles of creating and enforcing modest BOD5 effluent standards on the textile sector.

Syria: What was the likely impact of the past Syrian ban on the use of carcinogenic azo dyes on the production and export of textile products?

Syria produces and exports cotton, cotton yarns, cotton fabrics, and garments. The dying process in the production of yarns and fabrics is one of the more pollution-intensive components of the textile industry, mainly in terms of water effluents. In 1996, Syria banned the importation (and de facto use) of carcinogenic azo dyes. While the ban has been enforced, the original motive for the ban is not clear. The government could have taken the action to maintain continued access for the country=s exports to the German market, which banned the use of azo dyes in about 1994, although there was no EU-wide azo dye ban in either 1994 or 1996. If Syrian policy changed to maintain market access for exports to Germany, this case study provides a good example of how a *product standard* in an export market (azo free textiles products) effectively becomes a *process standard* in the producing country. Of course, the government may also have banned imports (and domestic production) due to concerns for the citizens health in the country.

While dyes can be applied to either yarn or fabric, the Syrian case study focused its analysis on the dying process in the production of fabrics (considered relatively more important in Syria). In this case, the azo dye ban forced domestic fabric producers to use substitute (and more expensive) dyes. Since more domestic fabric is consumed within the country, mainly as an input in the garment industry, the impact of azo dye ban on garment exports is evaluated.

Tunisia: What would be the impact of higher irrigation water costs on exports of dates and citrus?

Tunisia is a small country where agriculture accounts for about 14% of total GDP. As with other countries in North Africa, the management of critical and limited water resources remains a key issue for economic growth and development of the economy. The cost of water to various sectors in the economy will surely rise in the future, either due to deterioration of supplies leading to increased access costs or policy induced increases in water resource costs.

Not surprisingly, however, the Ministries of Economy, Finance, and Commerce, as well as different producer associations basically oppose water cost increases to industry. The main concern is that any water cost increases will hurt their competitiveness, with a resulting reduction in exports and employment and an increase in imports.

To evaluate this relationship between water costs and key exports, the Tunisian case study focused on the impact of higher water costs on fruit production and exports, and specifically, dates and citrus. For reference, fruit exports were about 73.2 million dinars in 1995 (about 1.1 dinars per US$1), which represented about 13.2% of total agricultural and food exports. Of total fruit exports, dates (fresh and dried) accounted for about 70% and citrus (mainly oranges) accounted for about 22%.

Turkey: What would be the impact on the production and export of leather products is existing water effluent standards were actually enforced on the sector?

Turkey is one of the world=s larger producers of leather. The sector, which contains about 1200 facilities, is divided between formal sector enterprises in organized industrial zones (about 80%) and small-scale facilities (20%). As of 1995, the sector accounted for about 1.8% of manufacturing output, almost 4% of total exports, and about 5% of employees covered by the country=s social security system. About 75% of Turkish leather exports are to the EU, with 44% of total exports going to Germany alone.

Leather production is pollution intensive. From raw hide and skin preservation, to soaking, dehairing, liming, and tanning, a range of water pollutants are generated including: total suspended solids (TSS), biological oxygen demand (BOD5), chemical oxygen demand (COD), pH, phosphorus (PO4-P), total chromium (Cr-tot), chromium +VI (Cr+6), nitrogen (NH4-N), oil and grease, and phenol.

While Turkish has water effluent standards for tanneries on paper that were modeled in part from German effluent standards, existing available data suggest that actual effluent levels substantially exceed standards. The basic implication is producers in organize industrial zones have waste water treatment facilities, such facilities either are not used or are not capable of handling the effluent load form the tanneries. Such a situation in principle is not consistent with the customs agreement between the EU and Turkey. As a result, based on estimates of excess pollution loads above Turkish standards and abatement costs, the Turkish case study estimated the impact on leather production and exports of enforcing existing water effluent standards.

3. Methodological Overview

For environmental regulations (either domestic or foreign) to affect exports or imports, it must be the case that such regulatory changes affect production decisions (technological possibilities, input prices, output prices, etc..) and, therefore, costs and/or revenues. Such impacts can be discussed quite easily in a simple demand and supply context. For example, consider the simple market situation in Figure 1, where S^0S^0 is an initial supply schedule represented marginal production costs, p^w is a constant world price for the commodity, D^0D^0 represents domestic demand, and $y^0 - c^0$ is the existing level of exports (the equivalent figure for imports could also be used). In Figure 1, regulatory changes that affect production cost in general shift the domestic market supply from the original level S^0S^0 to a new level S^1S^1. Given a fixed output price at p^w, production falls from y^0 to y^1 and exports fall from $y^0 - c^0$ to $y^1 - c^0$.[6]

While in principle it could be possible to estimate directly a reduction in past production and/or exports due to past changes in some environmental regulation, the data needed to estimate such relationships are difficult to obtain in many developing and transition economies. As Larson (2000) shows, however, it is possible to rely on some basic microeconomic foundations to decompose such supply shifts into separate components that may be easier to understand, calculate and/or estimate, and discuss.

[6] See Krutilla (1991), Anderson (1992), and Smith and Espinosa (1996) for additional simple graphical overviews of this topic.

The Basic Model (No efficiency adjustments and fixed export prices)

While the details of this method can be found in Larson (2000), it may be useful here to summarize first the key results on how to estimate the supply shift as noted in Figure 1.

For reference, the following notation is used:

x = the regulated input used by some industry (e.g. water in the above discussion)
w = the initial regulated input price
k = other production inputs
r = prices of other inputs
y = output (e.g., textiles, leather)
f(x,k) = a decreasing returns to scale production function relating inputs to output, with y=f(x,k)
p = the price of output

The Larson (2000) approach simply assumes that firm=s minimize costs and maximize profits within the context of competitive markets. As a result, standard duality relationships between a profit function)' ='p,w,r) and a cost function C = C(w,r, Y), the symmetry of the Hessian ,' and the envelope theorem (Hotelling=s Lemma and Sheppard=s Lemma) can be used to show that:

$$\frac{\partial Y}{\partial w} = -\frac{\partial X}{\partial p} = -\frac{\partial X^c}{\partial y}\frac{\partial Y}{\partial p} \quad (0)$$

where Y is the profit-maximizing supply function, X is the profit-maximizing input demand function, X^c is the cost-minimizing input demand function, and y is a reference level of output in a cost function.

The result in (1) can be rewritten as:

$$\eta_{yw} = \frac{\partial Y}{\partial w}\frac{w}{Y} = -\left[\frac{wX}{C}\right]\left[\frac{C}{pY}\right] * \eta_{yp} * \eta^c_{xy}$$

$$\% \Delta Y = \eta_{yw} * \frac{\Delta w}{w} * 100 \qquad (0)$$

$$\% \Delta E = \% \Delta Y * \frac{1}{(E/Y)}$$

where $\varsigma_{yp} = (\partial Y/\partial p)(p/Y)$ is the output own-price elasticity, $\varsigma^c_{xy} = (\partial X^c/\partial y)(X/Y)$ is the elasticity of the cost-minimizing input demand with respect to the reference output level, and %;Y denotes the percentage change in the variable Y, defined as; Y/Y.

The relationship in equation (2) shows that the impact of higher prices for the regulated input on output and exports depends on four specific components: the regulated input=s cost as a share of total costs, wX/C; total costs as a share of total revenues, C/pY (which is essentially an inverse profit rate); the output supply elasticity with respect to output price, ς_{yp}; and the input demand elasticity (cost-minimizing) with respect to output level, ς^c_{xy}. For reference, wX/C and C/pY are both between zero and one, and $1 \leq \varsigma^c_{xy}$, recalling that $\varsigma^c_{xy} = 1$ implies constant returns to scale (in which case the profit function is not defined). One benefit of the simple decomposition in (2) developed in Larson (2000) is that the assumptions and calculations are very transparent and relatively easy for policy makers and industry interest groups to evaluate and discuss.

In some situations, such as end-of-pipe pollution control technologies, it may be difficult to attribute environmental regulatory cost changes to specific inputs. In such circumstances, there may be data or information available on how some regulatory change is likely to affect average production costs, in which case the cost function can be written as C = C(w,r,y) + My, where M represents an increase in average production

costs due to the regulation. For example, consider the case where with initial environmental regulations r=, M(r=) = 0 represents the additional average production costs due to the initial regulations. With some regulatory change from r= to r@, average costs increase to M(r@) = m. In this case, the regulatory change in average production costs is dm = M(r@) - M(r=) = m. In this case, the supply function just shifts from Y = Y(p, w,r) without the regulation to Y(p-p,w,r) with the regulation. For this case, a similar process as above can be used to show that:

$$\%\Delta Y = -\eta_{yp} * \frac{mY}{C} * \frac{C}{pY} * 100$$

$$\%\ \Delta\ E = \%\ \Delta\ Y * \frac{1}{(E/Y)} \qquad \textbf{(0)}$$

In this increasing average cost increase case, it is just necessary to know the basic supply elasticity and an estimate of the existing production cost increase (m) to evaluate the impact of higher regulatory costs on production and exports.[7]

Extensions of the Basic Model (efficiency improvements and export price adjustments)

Two extensions of the basic model developed in Larson (2000) are used in the country case studies: firm-level efficiency improvements in the use of the regulated input; and export price adjustments due to downward sloping export demands. To include such extensions into the basic model, the following additional notation is needed:

f(qx,k) = the technical production function relating inputs to output so that y=f(qx,k);
q = input efficiency parameter;
z = qx = >effective= input used;
D(p) = export demand as a function of price.
B(p) = domestic demand as a function of price

If environmental regulations increase an input price, companies may have an incentive to increase the efficiency with which the input is used. In general, such efficiency improvements act to offset some of the impacts on the sector of the input price increase due to environmental regulations. Regarding export price adjustments, supply shifts may cause export prices to adjust when export demand is not perfectly elastic (i.e., the sector faces a Adownward sloping@ export demand).[8]

With the new form of the production function y = f (qx, k), the profit function becomes) = p,w/q,r), where the term w/q is the effective price of the regulated input. Using essentially the same process as outlined with the basic model, the final effect of any regulatory change that increases w depends on how this effective input price changes. As shown in Larson (2000), can be written simply as:

$$\eta^{p}_{yw} = (\ 1 - \eta_{qw}\ ) * \eta^{qp}_{yw}$$

$$\%\ \Delta\ Y = \eta^{p}_{yw} * \frac{\Delta\ w}{w} * 100 \qquad \textbf{(0)}$$

$$\%\ \Delta\ E = \%\ \Delta\ Y * \frac{1}{E/Y}$$

[7] Note that this formulation is slightly different from, but completely consistent with, that outlined in Larson (2000).

[8] There are two simply reasons why export prices may adjustment as supply shifts. First, by definition, changes in export levels from a 'large country' influences world prices for that product (Van Beers and Van den Bergh 1996). And second, it is commonly assumed in trade models that products are differentiated by country of origin (e.g., Armington 1969). In either case, the international price of a country□s exports will change as quantities exported change (see, Dervis, de Melo, and Robinson 1982, p. 225).

where the output supply elasticity with respect to the input price holding q and the export price fixed, denoted as ς^{qp}_{yw}, is just the cross price elasticity defined in equation (2) above. In general, when environmental policy has a >good= impact on either input quality or incentives to use the input more efficiently, it is possible that ς_{qw} is positive.[9]

The elasticities developed in (2) and (4) can be described as simple shifts in supply functions as outlined in Figure 1. As a first effect, from (2), the direct impact of higher input prices on production and export is a shift back in the supply function from S^oS^o to S^1S^1. As a second impact in (4), efficiency improvements associated with the input price increase act to shift out the supply function to S^2S^2 with new production levels y^2 with exports $e^2 = y^2 - c^o$.

As a final step, export prices can adjust to export supply shifts due to either large country or Armington assumptions. With D = D(p) representing export demand as a function of price, B(p) representing domestic demand, and assuming market clearing where D(p) = Y(p,w/q,r) - B(p) at the equilibrium price p = p(w/q,r). After taking the total differential of the equilibrium condition with respect to p and w, the impacts of higher input costs due to more stringent environmental regulations on the market price p can be written as:

$$\eta_{pw} = \left[\frac{\eta^{p}_{yw}}{\eta_{Bp}\,\frac{B}{Y} - \eta_{yp} + \eta_{Dp}\,\frac{E}{Y}} \right] \qquad \textbf{(0)}$$

where ς_{Dp} is the elasticity of export demand with respect to the product's price, and ς_{Bp} is the elasticity of domestic demand with respect to price. Thus, (5) shows how much of the input price increase is passed along to consumers in the export market.

Writing the expanded form of the export supply function as E = Y(p(w), w/q, r) - B(p), the implications of all three models are nested as:[10]

$$\eta_{yw} = \eta^{p}_{yw} + \eta_{yp} * \eta_{pw}$$

$$\eta_{ew} = \eta_{yw} * \frac{1}{(E/Y)} - \eta_{Bp} * \eta_{pw} * \frac{(B/Y)}{(E/Y)} \qquad \textbf{(0)}$$

where the elasticity ς^{p}_{yw} in (6) can be the cross price elasticity defined from (2) or (4) depending on if efficiency improvements are included.

The relationship in equation (6) can be understood quite simply in terms of simple supply shifts and price changes summarized in Figure 1. First, when environmental regulations increase an input cost (w increases), the term ς^{q}_{yw} represents the initial >shift back= in the profit-maximizing supply function in price-output space as in Figure 1. Second, if efficiency improvements are induced by the higher input cost, then $\varsigma_{qw} > 0$ represents a >shift forward= in the supply function as in Figure 1. And third, if the international price increases as defined in equation (5), then output increases along the supply function S^2S^2 from y^2 to y^3, domestic demand falls from C^o to C^3, and exports change from $y^2 - C^o$ to $y^3 - C^3$.

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[9] It is also possible to interpret the results in (2) as the short-run impact on supply and exports from the regulatory change, and (4) as a longer-run elasticity after some fixed factor q has adjusted (i.e., Le Chatelier effects).

[10] It is also possible that environmental regulations on one input, say energy, may also induce adjustments in other inputs, in which case r = r(w) could be considered as well.

4. Introduction to the Case Study Results

Table 1 summarizes the basic results obtained for the six case studies. Given that each case study may have had several scenarios included in the analysis, the summary Table 7 is intended to illustrate a reasonable range of impacts based on the available information in the case studies.

The countries in Table 1 are organized roughly in terms of small to larger impacts. For Morocco, for example, the proposed increase in BOD control costs would have a minor impact on production and exports. Thus, this results suggest that beginning the process of water effluent control in the textile sector would have minor impacts on the industry. Caution is needed, however, in this interpretation because the results depend directly on how capital investments are financed. The case study assumed that capital costs for BOD control would be subsidized by the government, while the industry would only pay operating and maintenance costs.

In Cyprus, a 60% increase in irrigated water costs would involve a minor impact on production and exports. This result depends on the fact that water costs are currently only a minor portion of total costs (5%), and aggregate supply is estimated to be inelastic in own-price.

Fertilizer exports in Jordan could be substantially affected by the additional costs of removing cadmium. Since phosphoric acid (P_2O_5) accounts for about 25% of costs of producing DAP, higher P_2O_5 costs are important. Tunisia, Turkey, and Syria show that, for some countries, a rather wide range of impacts could occur depending on specific pieces of information and proposed policy changes.

5. The Phase II Multi-Sector Rapid Assessments

During the second project phase currently underway, the MedPolicies Initiative is assisting five countries to conduct rapid assessments of the vulnerability of national economic sectors to changes in environmental regulation. This work is currently underway in Syria, Egypt, Morocco, Tunisia, and Algeria. Case studies that build upon the Phase I findings are also being conducted in Turkey, Cyprus, and Jordan. For example, in Syria, on the export side, the rapid assessment will focus on the impacts of changed environmental regulations on the export of raw cotton, cotton yarn, and olive oil. On the import side, the rapid assessment will focus on the chemicals industry and medicines. These case studies are scheduled for completion by April 2000. Interested readers can contact the MedPolicies Initiative office in Beirut or at the Harvard Institute for International Development in the USA for more information.

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THE EFFECT OF ENVIRONMENTAL LEGISLATION ON FERTILIZER EXPORTS: THE CASE OF JORDAN[1]

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Introduction

Environmental issues are very important to Jordan. Our export of primary products is also very important to us. They comprise a significant portion of our export bill. Accordingly, before I delve into our analysis on what we did on the Jordan case study, I would like to mention that in the case of phosphate and potash, we have low value-added production. In other words, Jordan focuses on producing these primary products and shipping them out in raw form or with very little industrial input. As a result, we become like many in the developing world, very susceptible to price changes. Any efficiency improvements are thus important.

In addition, most policies in Jordan are not decided upon not with sophisticated general equilibrium models – and usually not with any models at all. Thus, any type of modeling, incomplete as it may be – and sometimes as simple as it may be – is better than nothing at all. I worked for quite a while as an advisor to the Minister of Planning and to other ministers in Jordan and have come to realize that the simpler the model, the easier it is for me to pass on an idea and to make it acceptable. That is part of the magic of the Larson model[2] to me. It is easy. It is straight-forward. The data, however, was not readily available. To do our analysis, we spent several days trying to get interviews to secure data. Even interviews were difficult to get.

Background

Our case study sought to determine the effect on competitiveness of removing cadmium from phosphoric acid (P_2O_5). Phosphoric acid (P_2O_5) is a phosphate based product that is mixed with ammonia (NH_3) to produce di-ammonium phosphate (DAP). DAP is a popular fertilizer that can be also used in the making of other fertilizers.

Jordan is the second largest exporter of raw phosphate in the world. It is a very, very important product to us. The Phosphate Company was established in 1949 by the government. It is a monopoly in the domestic market and a price-taker in the international market. This is because phosphate and potash companies operate within the context of cartels and prices are set within these cartels. Thus, when we talk about calculating elasticities of supply and demand, the data obtained can be very distorted. Accordingly, there were many difficulties in collecting the data.

In the 1990s, there was a lot of awareness in Jordan about the role of the environment. This was based on a fear that while Jordan is in the process of modernizing, we do not want to sacrifice the environment during this journey. Accordingly, in 1992, about 180 specialists, economists, advisors got together and decided on a 200 point strategy. None of it addressed the issue of international trade and its effect on the environment, or the inverse relationship. Actually, none of it foresaw the effect of joining the European Union (and I was one of the negotiators involved in the negotiation of the Jordanian-EU Association Agreement, which was signed on November 24, 1997). None of these points are addressed the EU

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[1] This case study was conducted with the support of the MedPolicies Initiative of the Mediterranean Environmental Technical Assistance Program (METAP). The MedPolicies Initiative is administered by the Harvard Institute for International Development through a grant agreement with The World Bank. This report is being reprinted with the permission of the MedPolicies Initiative. For copies, please contact the MedPolicies Initiative at the Harvard Institute for International Development, 14 Story Street, Cambridge, MA 02138 USA; tel: 1-617-496-9035; fax: 1-617-496-8040.

[2] The Larson Model is the model developed by Dr. Bruce Larson and used by the METAP III MedPolicies Initiative to conduct case study work on trade and environment. Bruce Larson, "Evaluating the Impact of Specific Environmental Regulations on International Competitiveness," (Draft 1), August 26, 1998.

agreement. None of these points were addressed during the WTO negotiations. We are lucky in Jordan since some research has indicated that Jordan has some low cadmium content phosphate mines. We are currently even beneficiaries of the European Union's low cadmium content regulations (7 ppm). However, we are only lucky so far, because our low cadmium content reserves are limited.

Jordan is currently mining from three mines: Al-Shidiya mine, which is a very recent operation that began in 1988; Al-Abiad mine; and Al-Hasa mine. We have been mining from Al-Abiad and Al-Hasa mines since 1969. In three or four years, these mines are likely to run out. Then we will have to depend on Al-Shidiya where the cadmium content is high. So we ask the question, why has not somebody thought forward? Why has not somebody thought of the possible effect of having high cadmium content in Jordanian DAP exports once production is focused on the Shidiya mine? This is extremely important since in the Shidiya mine, the level of cadmium varies from 3 ppm to 16 ppm. This level is very hard to calibrate before extraction. Instead, mined phosphate is mixed after the extraction process to achieve the desired qualities. This renders the mining process expensive. However, this will inevitably be the case when production is focused at Al-Shidiya in the next four to five years.

Is there a policy? There isn't. Has there been any research on this topic? I think the research we completed on this subject with the MedPolicies Initiative was a first in Jordan. So the implications of using the Larson model as a policy tool are tremendous. Once one can provide a educated guess to policy-makers – regardless of the accuracy of the model or how scientifically correct it is – once you can provide an objective policy analysis, I think you have made a qualitative move in the way in which you make policy in the area.

Part of the challenge in addressing these issues is also the management of these companies. The Phosphate Company in Jordan is government owned and is also government run. The management is thus appointed by the government. It is not as if the shareholders decided who the manager is – he is usually a bureaucrat from the government or some important figure who was once in the government and who would like to stay on he government payroll. Some of this lack of forecasting can thus be attributed to that.

Summary of the Jordanian Case Study

We conducted a study entitled "The Effect of Environmental Legislation on Fertilizer Exports: The Case of Jordan."[3] We used the Larson model[4] as the basis for our analysis. The issue addressed is whether there is a threat to the competitiveness of Jordanian fertilizer exports because of the high cadmium content of phosphate in the Shidiya mine. We collected the data and used the model developed by Bruce Larson and found, in the inelastic supply case, a final export reduction of –0.5%. With a high elasticity case, we had a –1.33% reduction in exports.

The cost of removing cadmium varies between US$8 per ton to US$35 per ton. So, if production costs were to increase by 10%, the effect on exports would be -2.0% or –5.3%. It varies depending on the assumptions used. This translates to a lost of US$5-6 million per year, which is an important figure. The question remains, why there has not been any research on the removal of cadmium? For instance, with efficiency improvements, we estimate that a savings of US$6-7 million could be obtained over five years, which justifies the expenditures on cadmium removal processes needed to maintain exports. Furthermore, this model can be extended to assess the impact on production and exports from the removal of uranium and another harmful substance from phosphate, which are likely to soon be regulated more stringently by the European Union.

Is there an official policy on these issues? No, there is not.

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[3] Yusuf Mansur and Bashir Al-Zu'bi, "The Effect of Environmental Legislation on Fertilizer Exports: The Case of Jordan," MedPolicies Initiative (Phase I), Final Report, May 1999.

[4] Bruce Larson, *op. cit.*.

However, when we look at Jordanian exports in 1988 (see Figure 1), Europe comprised 33% of exports, Arab countries 15%, India and East Asia about 50%. If we look at exports in 1996 (see Figure 2), it seems evident what is the unwritten policy that came in response. Exports to Europe decreased from 33% to 1%, and focus was redirected to East Asia, Pakistan and Ethiopia where environmental requirements are less stringent. A major problem is that these markets are less stable than the European markets upon which Jordan previously depended.

There was reference made to the Porter Hypothesis earlier during this session that discussed how, with more stringent environmental conditions, one can achieve higher levels of efficiency. I think this is true. We do not have to think of efficiency only in terms of production, i.e., producing something better or more cheaply, but we can also think in terms of creating more value-added in products. For example, with phosphates, Jordan could develop more chemical industries and more value-added industries to meet this challenge. Unfortunately, however, no one is thinking that far ahead.

Policy Recommendations

Our policy recommendations are simple and straightforward.

1. Provide financial support to R&D institutions for research on improving the efficiency of the extraction process.

2. Create a permanent cooperation mechanism between public and private sector stakeholders. Such a multi-stakeholder forum to address these policy issues might be established to address these issues and facilitate interaction with decision-makers.

3. Offer tax breaks to companies for adopting new technologies aimed at increasing efficiency.

4. Given that the EU is going to pass uranium content regulations in year 2000, develop programs and initiatives to ensure that local companies consider this issue.

5. Examine Thorium content in phosphate, given that it is also likely to be regulated by the EU.

Lessons Learned

The case study exercise also allowed us to formulate several lessons learned as we consider the subject of this case study and related issues in the future.

1. There are opportunities for enhancing the good cooperation and communication channels that exist between the private and public sectors in this industry.

2. Companies producing fertilizers need to become more self-reliant in R&D.

3. Regulations become more stringent over time, and people have the tendency to respond late to changes.

4. Companies are exploring and pursuing alternative markets in face of increasingly stringent regulations in traditional export markets.

If you would like more information on the Jordanian case study, please see the report that we prepared for the MedPolicies Initiative.

Thank you.

Figure 1

Jordan's Fertilizer Exports 1988

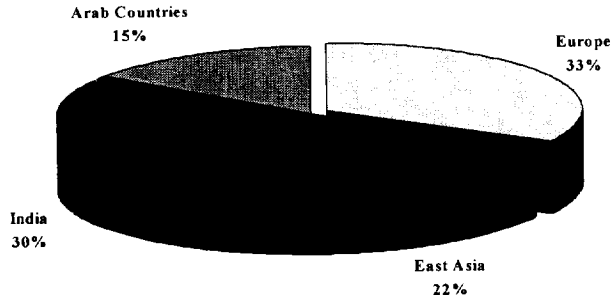
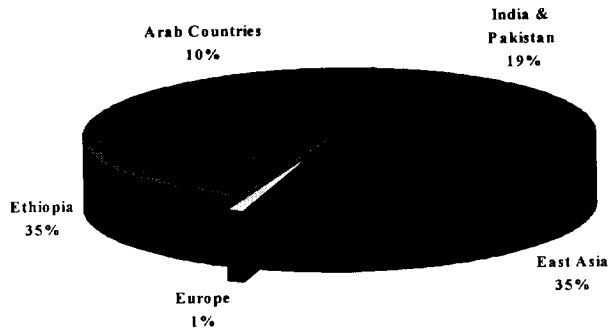


Figure 2

Jordan's Fertilizer Exports 1996



The Study

The globalization of the world economy has led to increased competition and lower profit margins in many industries. Adapting to new environmental requirements can introduce significant costs to the production process, particularly in countries where the relative cost of technology is particularly high. Arguably, the ability of many developing countries to compete internationally may abate as a result of this free trade margin squeeze.[5]

Developing countries that export raw materials or goods with little value-added are less likely to be immune to adverse effects on the terms of trade due to the relative importance of these exports in national accounts, their distribution effects, and the high cost of transferring know-how. In addition, being newcomers to technology, the immediacy of the costs and the necessity of momentous capital expenditures (in terms of magnitude and specialization) place significant burdens on these countries. Jordan is no exception.

For Jordan, environmentalism is neither a luxury nor a trend. The country's scarce resources and fragile ecosystems necessitate a viable and ongoing program of action covering all aspects of environmental protection. In order to maintain a viable resource base for economic growth, as well as to preserve the region's natural heritage, Jordan became the first country in the Middle East to adopt a National Environmental Strategy, which was developed with assistance from the International Union for the Conservation of Nature (IUCN). In May 1992, a team of over 180 Jordanian specialists completed a practical and comprehensive working document entitled a "National Environment Strategy for Jordan," which offers 400 specific recommendations concerning a wide variety of environmental and developmental issues. However, such an effort was barely able to touch upon the problems that may arise from restrictions on trade in commodities. For instance, restrictions on the export of fertilizers that would arise from trade and environmental regulations in foreign markets, particularly those of the European Union (EU) and the United States.

As a step towards understanding the likely impact of new trade regulations and environmental policies on Jordan's international competitiveness, the objective of this paper is to examine the effect of current and future environmental regulations on fertilizer production and trade. More specifically, this study focuses on the economic impact of removing substances considered hazardous to human health from phosphate-based products, namely phosphoric acid (P_2O_5). P_2O_5 is a phosphate based product that is mixed with ammonia (NH_3) to make di-ammonium phosphate (DAP), a popular fertilizer that can be also used in the making of other fertilizers. The elasticities of demand, supply and cross elasticities are estimated and used to determine the effects of more stringent environmental regulations on Jordanian fertilizer exports. This is particularly important for Jordan given new product standard regulations that have been adopted in large import markets, such as the EU.

After a brief background on the progress of economic reform in Jordan and the Jordanian fertilizer industry, the paper offers some insights into the changing policy environment caused by globalization with emphasis on the legislative impact of the Jordan-EU Association Agreement and Jordan's upcoming membership in the World Trade Organization on the fertilizer industry. An empirical case study on the

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[5] It is yet to be proven beyond doubt that the cost of production increases due to more stringent environmental standards. However, there is a view that tight standards improve the competitiveness of the industry and generate higher quality production, as has been noted by Porter (1990, 1991) and Porter and van der Linde (1994). Furthermore, the more such regulations induce firms to reduce inputs (i.e., become more efficient), the more likely they are to increase the competitiveness of the industry. Moreover, the more cost effective the environmental regulations are, the more likely they are to have a positive net effect on the competitiveness of the concern and the nation as a whole, as explained according to Panayotou and Vincent (1997). In other words, it is incorrect to generalize that environmental regulations increase the cost of production and reduce the profit margin. Also, Grossman and Krueger (1993) found that pollution abatement costs have no impact on United States imports from Mexico. Tobey (1990) found no significant relationship between environmental stringency and net exports. Kalt (1988) found no statistical significance in the relationship between changes toward stringent environmental compliance and net exports.

removal of cadmium from P_2O_5 and DAP exports is used to demonstrate such impact. The final section of the paper presents a summary of the findings, conclusions, and policy implications.

Part I: The Jordanian Fertilizer Industry in a Changing Global Environment

Jordan initiated its economic reform and stabilization program in 1988 after the dinar was devalued in response to heavy unmet external obligations. The program was discontinued in 1992 during the aftermath of the Gulf War and the repatriation of over 300,000 Jordanians. Reform was reinstituted in 1993 with the help of the International Monetary Fund (IMF) and the World Bank, and consists of monetary stabilization and economic liberalization measures. Prudent monetary policy and indirect bank regulatory regimes have kept inflation figures low and reestablished faith in the dinar. All restrictions on the transfer of capital and dividends were removed by the Central Bank of Jordan, which also lowered the interest rate to encourage investment. Several pieces of legislation were introduced to promote the reform process while government procedures were streamlined, including civil service reform. In addition, privatization, which began in Jordan as early as 1985, took an aggressive turn in 1998 as the government announced a comprehensive plan for increasing the role for the private sector in the economy.

In response to these efforts, the Jordanian market has expanded vigorously over the past six years. During the first half of the 1990s, Jordan achieved an average yearly growth rate of 6.6%, the highest in the region. Furthermore, the stock of investment has been growing steadily from 22% of GDP in 1989 to 33.4% of GDP in 1996, with private sector investment accounting for 80% of aggregate investment. The current account deficit was reduced from 24% in 1988 to less than 4% of GDP by the end of 1996. During the first eight months of 1997, the balance of trade deficit decreased by over US$220 million or 13.3% to US$1,420 million, as exports increased by US$71million and imports decreased by US$150 million. The budget deficit also decreased from 10% in 1989 to less than 4% of GDP in 1996, to a surplus of 2% in 1997. External debt, which stood at 190% of GDP in 1989, decreased to 87% in 1997. Moreover, Jordan's prudent monetary policy has made the Jordanian dinar one of the most stable currencies in the region as Jordan's foreign currency reserves increased to US$1.7 billion in 1997. The inflation rate was reduced from 25.6% in 1989 to 3% in 1996 and 1997.

The Jordanian Fertilizer Industry

The fertilizer industry in Jordan emerged from of the abundance of two very important constituent minerals: phosphate and potash. Jordan is the second largest exporter of raw phosphate in the world, which it extracts from its Al-Shidiya, Al-Hasa, and Al-Abiad mines. It is expected that the quantity of phosphate produced will reach 9 million tons by the end of this century. Jordan is also among the largest producers of potash. It is ranked the fifth largest producer of potash worldwide and the third largest exporter to Asia.

Raw phosphate was first produced in Jordan in 1963, although fertilizer production from phosphate did not start until 1986. Potash development trailed that of phosphate and was not significantly produced until 1982.

Two companies with monopolistic licenses dominate the production of fertilizers in Jordan. The Jordanian Phosphate Mines Co. (JPMC) was established in 1949, became a public company in 1953, and started production in 1963. It has a monopoly license that is renewable every thirty years. JPMC is presently a semi-governmental company with 69% government ownership. Its primary products include raw phosphate, fertilizer (which it started producing following the JPMC purchase of the government's fertilizer factory), and related chemicals. The main characteristics of Jordanian phosphate are its low grinding cost, highly reactive nature in direct application, low content of impurities (heavy metals), good filterability, and low levels of corrosion.

The Arab Potash Co. (APC) was established in 1957 in partnership with several Arab countries, of which Jordan is the majority shareholder (52.4% of equity). It has a monopoly license, which will expire in 2057, to extract potash (potassium chloride) and all other salts from the Dead Sea. The Dead Sea is the only place in Jordan where potash is mined and known to exist in commercial quantities. APC began producing

crude potash in 1982, and, until today, comprises the company's entire product range. Crude potash can be directly applied as a fertilizer.

Phosphate

JPMC exerts the greatest and most important influence of any industrial enterprise on the Jordanian environment.[6] The intensive development of phosphate and its related products has resulted in serious practical problems that go beyond those expected in quarries.

Phosphate deposits are exposed or located near the surface along a north-south striking belt that is about 200 km long and 10-25 km wide and extends from Russeifa in the north to Hasa in the south. Two other major sites are the Shidiya deposit (50 km southeast of Ma'an) and one in the Irbid Governorate in northern Jordan.

Four phosphate beds have been mined in Russeifa since 1959, each having an average content of 70.3% tri-calcium phosphate (TCP). Proven reserves are about 70 million tons of high-grade phosphate. However, because of unfavorable mining and transport conditions associated with this bed, open-cast and underground mining have been suspended.

The two mines at Wadi Abiad and Hasa produce ore of TCP grades between 65% to 70% at the upper horizon, and 73% at the lower horizon with 183 million tons of proven reserves. The likely geological reserves (based on geographic indicators and characteristics) in that region (between Hasa and Qatrana) are in the order of 1 billion tons. Production at Hasa started in 1962, and at Abiad in 1970. Due to the lengthy exploitation periods, the production capacities are gradually decreasing for the Hasa and Abiad mines.[7] The Shidiya mine, where production started in 1988, currently has known reserves of 1,505 million tons. Not surprisingly, given the magnitude of this deposit, the JPMC future production strategy is focused on the reserves of this mine.

Phosphoric acid, a necessary component in the production of fertilizers, is produced in the Industrial Complex in Aqaba. It is produced through the "wet method" by mixing finely ground phosphate with sulfuric acid, which is later sent to a separator to separate the phosphoric acid from the phosphogypsum. The phosphogypsum that contains some levels of radioactivity is then sent to dumps that are relatively distant from the site through carrier belts. The phosphoric acid is concentrated through an evaporation process that releases several harmful gases (SO_2, SO_3, SiF_4, HF, and NH_3) into the atmosphere.[8]

Potash

Potash (soluble potassium salt minerals) occurs in huge quantities dissolved in the Dead Sea water and as stratified layers within the salt dome of the Lisan Peninsula. Approximately 45 billion tons of salts are dissolved in the Dead Sea, which has an average salt content of about 31.5%. Dead Sea water is evaporated in extensive pans for increasing the salt concentration in the brine, and for the selective precipitation of potash. At present, the only mineral extracted on a large scale is potash, and with it, sodium chloride (table salt) as a by-product. Initial production at the potash plant at the southeast end of the Dead Sea was about 1.2 million tons of potash annually, which increased to about 1.4 million annually in 1998.

Emissions generated by the potash industry are a result of six functions within the overall potash recovery process. These are:

- Combustion of fuel oil in the boilers, dryers, trucks, buses, harvesters and other equipment directly related to the project;

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[6] McEachern, J. (August 1991).

[7] For a detailed treatment of the reserves and an assessment of the proven and geological reserves see the *National Environment Strategy for Jordan*, Ministry of Municipal, Rural Affairs, and the Environment (1991, p. 124).

[8] For a more detailed assessment, see Saleh, B. (1997 a, b).

- NaCI precipitation in the tailings pond;
- Drying of potassium chloride (KCL)
- Fuel storage;
- Sanitary waste disposal; and
- Transportation.

The fertilizers relevant to our study concern those produced from phosphate. Phosphate fertilizers include crushed phosphate rock, triple super-phosphate, di-ammonium phosphate (DAP), and mono-ammonium phosphate (MAP).[9]

Significance of the Industry

In 1996, the mining sector—basically comprised of APC and JPC—was considered the leading economic sector representing 7.5% of GDP. Today, APC and JPMC combined employ 7% of the Jordanian industrial labor force (8,100 employees). Both companies are also currently involved in joint venture activities, which will most likely increase their percentage of labor to 8.5% at the initiation of production. In 1996, almost 97% of their total output (US$542 million or 36% of total Jordanian exports) was exported. Fertilizers (DAP, Super Phosphate, NPK, and raw potash) represented two-thirds of these exports. Total JPMC sales of raw materials were US$175 million, while its fertilizer sales were at US$184 million. On the other hand, the total sales of APC were US$184 million.

There are several distortions in the industry that directly affect Jordanian production and export patterns. Prices do not directly follow from simple demand and supply conditions.[10] Both companies operate as monopolists in their domestic markets (therefore, do not adhere to the usual positive supply curve relationship between price and quantity), and as price-takers (non-dominant, follower firms) in their respective cartels in the international market.[11] Also, a significant proportion of Jordanian fertilizer exports are decided by protocols usually negotiated by diplomats, not business executives.[12]

Another concern is the lack of emphasis on value-added production in both companies. Further vertical integration is warranted to make the output of both firms less susceptible to world commodity price fluctuations. In other words, both companies need to increase their investments in downstream products and production, thereby making more value-added products and reducing their exposure to commodity price fluctuations.[13]

Since the majority of shares of both companies are owned by the government with their CEOs being prime ministerial appointees usually drawn from the public sector, neither company behaves as a profit-maximizer. This has been a complaint directed at the management of both these companies at various times. Given the present drive to privatize all state-owned enterprises, both the APC and JPMC will have to operate in the future as profit maximizers. Furthermore, it is likely that over time more concerns will arise at home and abroad about the environmental impacts of the industry.

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[9] Other fertilizers are classified as follows: (1) nitrogenous fertilizers include dry ammonia, urea, ammonium nitrate, ammonium sulfate, and lime stone ammonium nitrate; (2) potassium fertilizers include potassium chloride, potassium sulfate, and potassium nitrate; and (3) mixed fertilizers can be produced by dry mixing of different fertilizer quantities, by granulating and dissolving fertilizer intermediates, or by reacting phosphate rock with nitric acid (nitrophosphate).

[10] This empirical observation was also confirmed during interviews with the management, experts, and staff at APC and JPMC.

[11] The term "price-takers" is used not in the sense of perfect competition, but to indicate that the firms are followers in the price-quantity settings of international commodity cartels.

[12] This mode of trade is not unique to the fertilizer industry. Unfortunately, a significant portion of Jordanian overall trade in the past was decided through trade protocols culminating from aid and mutual cooperation agreements.

[13] For details see the "Competitiveness Study of the Mining and Fertilizer Cluster" conducted by the National Competitiveness Team at the Ministry of Planning of Jordan, 1998.

World Fertilizer Consumption

From 1930-1960, there was an increasing demand for nitrogen, phosphate and potash in raw and fertilizer form. The 1970s exhibited fluctuating demand because of the abundant supply of fertilizers, as well as the oil crisis of 1973-1974 and 1979-1980. Fertilizer prices then soared to unprecedented heights. The sharp rise in prices had a negative impact on phosphate and potash consumption. Despite the sharp price increase, crop yields continued to increase in Western Europe during the 1980s. More recently, world fertilizer consumption increased slightly and then fell by 17% from 1988-1989 to 1993-1994.

World fertilizer demand projections prepared by an FAO, UNIDO, World Bank study and the Industry Fertilizer Working Group imply a 2.3% per year increase in the demand for fertilizers and no global shortage of fertilizer during the 1995-1996 to 2001-2002 period.[14] Fertilizer demand is expected to grow by 1.3% and 5.9% per year in all regions and sub-regions, except in Western Europe. The regions undergoing reforms such as Eastern Europe and Eurasia are expected to experience a recovery in fertilizer demand at an annual rate of 4.6% to 5.7%. Furthermore, regional fertilizer consumption in the Middle East, North Africa, and Mediterranean region has increased since the 1960s and accelerated sharply after 1973. The Near East accounts for 4% of world fertilizer consumption. Egypt, Iran and Turkey account for 75% of fertilizer consumption at the regional level, and Saudi Arabia accounts for 6% due to its policy of agricultural self-sufficiency.[15]

It is worth noting here that since 1973-1974, most of the increase in world nitrogen-based fertilizer consumption is accounted for by urea, while most of the consumption of phosphate and potash fertilizers are accounted for by di-ammonium phosphate (DAP) and potassium chloride (KCL) sales, respectively.[16] Also, there has been an increase in the production and use of fertilizer blends worldwide.

On a global scale, it is generally expected that there will be a gradual recovery in fertilizer use and agricultural production in Central Europe and the states of the former Soviet Union. Moreover, fertilizer consumption is expected to increase in Asia (particularly among the Asian Tigers, which, until the Asian Crisis of 1998, had assured new mineral producers of qualified and expanding markets for their products) and, to a lesser extent, in Latin America. It should be noted, however, that global fertilizer consumption remains sensitive to exchange rate fluctuations and political (non-economic) changes and decisions.

European Fertilizer Demand

The consumption of fertilizers in Western Europe has been stable since 1994, at 17.8 million tons nutrient. However, fertilizer demand is expected to decrease by 1% per year in Western Europe due to environmental concerns, efficiency improvements, and policy reforms leading to a reduction in the support for agriculture. Furthermore, since world fertilizer consumption has increased, the relative share of Western Europe in world consumption has declined from 14 to 13%. It is expected that the consumption of nitrogen in Western Europe will fall by 5% over the next 10 years, with somewhat larger declines of about 9% expected in the consumption of phosphorus and potassium fertilizers.

The European Fertilizer Manufacturers' Association (EFMA) stands as the leading body in the European fertilizer industry. It calls for a profitable and sustainable fertilizer industry in Western Europe, safe and efficient manufacturing operations that use the best available technology standards, and a first class environmental performance. In 1998, the European industry's share of nitrogen and phosphate output was approximately 10% of world production.

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[14] Bumb (1998).

[15] This policy has been recently under revision in light of the decade low oil prices suffered by OPEC members, which have adversely affected government revenues of the Gulf States, particularly Saudi Arabia.

[16] On the other hand, one could say that the economic imperatives have over-ridden the need for fertilizer products like urea, di-ammonium phosphate and blends which are most suitable from an agricultural and environmental point of view.

The World Trade Organization

Jordan has completed its second formal round of negotiations for accession to the World Trade Organization, the umbrella organization that administers GATT 1994 (a better explained, detailed and modified GATT 1947), the General Agreement on Trade in Services (GATS), and the Trade Related Intellectual Property Rights Agreement (TRIPS). The response of the WTO has so far been positive and encouraging, and Jordan may become a full member in the WTO by end 1999.

Whether environmental standards will affect trade, and whether they may be used as non-tariff barriers to trade is a question that is likely to become more and more important for Jordan. Even though GATT 1947 did not address or directly include environmental issues, the WTO incorporates many provisions that underscore the role and significance of the environment in trade. These provisions include the code on subsidies, the section on sanitary and phytosanitary measures, and Article XX, which provides for exceptions to GATT rules for the protection human, animal and plant life, and the conservation of natural resources.

Furthermore, during the Singapore Ministerial Conference in November 1996, developed countries led by the US brought the environment into center stage by requesting that developing countries adhere to the same stringent environmental standards applied in the developed countries. It is expected that by the year 2010 there will be an international commitment by WTO members to abide by set international standards regarding fertilizer exports, which will likely include strict environmental controls. Developing countries, Jordan included, will most likely be adversely impacted by the implementation of measures that include trade sanctions or countervailing measures on exports of nations that do not adhere to environmental standards agreed to within the context of the WTO.[17]

Additionally, the Agricultural Agreement reached in 1993 under the Uruguay Round requires countries to reduce tariffs, quotas, and trade distorting export subsidies on agricultural products. Under these agreements, developed countries agreed to reduce tariffs on agricultural products by 36% with a minimum reduction of 15%. The overall impact is most likely to be a modest positive rise in international prices and increased crop production in developing countries. Furthermore, there will probably be a reduction in the production of agricultural products in the EU and expanded production elsewhere because of these agreements. It is thus likely that the EU share in fertilizer imports will continue to decline in the future.

The Jordan-European Union Free Trade Agreement

Jordan and the EU signed an Association Agreement on November 24, 1997 that calls for the gradual removal of trade barriers and the establishment of a free trade zone with the European Community over a 12-year period. Upon entry into force, the Agreement grants Jordanian industrial goods immediate duty free access to EU markets. While the Agreement has yet to be ratified by the respective parliaments of Jordan and the EU Member States, Jordanian fertilizer exports will continue to benefit from the Unilateral Free Trade Agreement, which gives Jordanian industrial products duty free access to the EU market in the interim.

Nevertheless, Jordanian fertilizer products exported to the EU will be soon required to be in full compliance with the standards adopted in the EU Unified Environmental Code, which will enter into force in 2005. In 1988, Jordanian fertilizer exports to the EU represented 33% of Jordan's total fertilizer exports.

EU Nitrate Directive

In Western Europe, there has been a trend toward compulsory "nutrient book-keeping" by farmers under the EU Nitrate Directive (EUND), whereby the supply of plant nutrients from various sources, such as the soil and organic materials, is measured against the crop requirements. The preparation of such balance

[17] This is an explicit concern of many developing countries that was voiced during the Ministerial Meeting in Singapore. Developing countries have voiced concern that the "carrot" (support and aid packages to the developing by the developed countries for environmental safety enhancement) may be suppressed and even forsaken while trade sanctions, used under the guise of environmental concerns become the popular tool for distorting trade away from the developing.

sheets has come into force in Denmark, Germany, Netherlands and Norway. The implementation of the directive is expected to lead to a more selective application of plant nutrients, both organic and inorganic.

EU Council Directive 96/29

Past European legislation regarding uranium and radioactive contents were not explicit. Only non-mandatory specifications by some customers were requested for either the total specific radioactivity level or for certain encountered radioisotopes such as Ra 226 in phosphates. However, this laxity in regulation began to change after the publication of EU Council Directive No. 96/29/EURATOM in the *Official Journal of the European Communities* (May 13, 1996). The directive is mainly concerned with laying down basic standards for protecting the health of workers and the general public against dangers arising from ionizing radiation. It addresses not only artificial radioactivity, but also natural radiation emitted from naturally occurring radioactive materials (NORM). It also stipulates that EU Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with the directive before May 13, 2000.

Two international symposiums have been organized to prepare for the implementation of the directive. The first was held in Amsterdam, Holland from September 8-10, 1997 and the second in Krefld, Germany from November 10-13, 1997. Both discussed the implications of the directive for many industries of which phosphate and phosphatic derivatives are inputs. Also addressed were the steps and preparations to be taken by EU Member States to adopt the directive by May 2000.

The current limit for specific activity by NORM that exists in many European countries is 500 Bq/g for materials where radioactive series are in temporal equilibrium and 100Bq/g when not in equilibrium.[18] The new directive sets a limit for the exemption of any radioactive material depending on the radionuclides present in it. According to the tables provided in the directive, the corresponding limits for U 238 and Th 232 in equilibrium with their decay series are 1000 Bq/kg. When several radioisotopes exist in the material, the directive provides a formula to calculate the exemption limit that takes into consideration the weighted influence of each radioisotope.

The EU directive can effect imports of Jordanian phosphate because of the presence of uranium, and small amounts of Th 232 and K40 in Jordanian reserves. The exemption limit for uranium-specific radioactivity will be between 0.5-1 Bq/g. This corresponds to a range of uranium contents lying between about 40-80 ppm (parts per million). Uranium contents in Al-Hasa and Al-Abiad phosphates range between about 70-100 ppm. In other words, they have in many cases specific radioactivity above the exemption limits required by the directive. Uranium content in Al-Shidiya phosphate usual range between 35-50 ppm. Thus, the Shidiya phosphate has radioactivity levels that are somewhat below the exemption limit.

However, it is common for thorium content in Jordanian phosphate reserves to be considerably high. In such cases, the specific radioactivity would likely be above the exemption threshold. Accordingly, the cumulative effects of these exemption limits will be of particular significance to Jordanian fertilizer exports if they are to come into compliance with the EU directive.

It should also be considered that while uranium levels in the raw phosphate are below the limit values, the phosphoric acid and fertilizers produced from phosphoric acid would not be necessarily exempted because of greater concentration resulting after fertilizer production. For example, about 80% of uranium and thorium existing in the phosphate rock remains in the produced phosphoric acid. This acid is then concentrated at about 1.5 times or more before the production of DAP. As a result, uranium and thorium concentrations in DAP fertilizer can be substantially higher than that existing in the original phosphate rock. Hence, this issue is also applicable to all Jordanian DAP exports, particularly those produced from Al-Shidiya phosphate.[19]

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[18] Radioactive equilibrium is said to exist when the radiation emitted by each of the members of a group of isotopes in a series are equal. The time taken to achieve such an equilibrium is one million years for uranium 238 and seventy years for Thorium. Further, please note that the Bq/g or per kg is a measure of radioactivity per weight.

[19] See Annex II for a brief review of Jordanian environmental legislation.

Likely Effect of EU Council Directive 96/29

The radioactivity limits on fertilizer products prompted by EU Council Directive 96/29 will have a large impact on the future of the Jordanian fertilizer sector. These impacts can be summarized as follows:

In almost all phosphate rock and produced phosphatic fertilizers, the specific radioactivity is above the exemption level. This will hinder the export of fertilizers to the EU.

The International Atomic Energy Agency (IAEA) discussed in a technical committee meeting in December 1998 the possibilities of changing the IAEA adopted limits related to radio protection and whether to adopt the EU Directive as their standard. If such a directive or similar limits are adopted by IAEA, the impact on the phosphate and fertilizers industry would be enlarged due to the globalization of the directive worldwide through IAEA regulations.

EU Directive 96/29, which sets limits for exemption of radioactive contents and certain principles and guidelines for controlling and monitoring the workplace where NORM are treated and handled (including phosphate and fertilizers), will surely increase production costs in affected industries.

There is no available process for uranium elimination from phosphate rock directly. However, there are many processes for uranium removal from phosphoric acid, albeit the removal cost is prohibitive (about US$35/lb. of U_3O_3). The current spot price for uranium is approximately US$9/lb.

The impact of the radioactivity limits set by EU Directive 96/29 on the phosphate and fertilizers industries will be more sever than that caused by cadmium content standards. In the latter case, there is no unified limit or regulation adopted by the EU or OECD countries since each country is setting its own limit(s) and regulations on cadmium content levels. Meanwhile, there will be united limits in the EU for radioactive matter that is likely to be adopted by other countries around the world.

Part II: The Removal of Cadmium from Phosphoric Acid

Cadmium is a rare metal that has no known separate ore deposits, but is usually extracted as a by-product of certain zinc, lead, or copper ores. It is basically non-essential to humans, animals and plants, and may present significant environmental health risks. For instance, renal tubular dysfunction takes place at critical cadmium concentrations in the renal cortex. Anemia, bone pain, deformities and renal failure may result from high cadmium content in the environment.

Some estimates suggest that about 80% of cadmium (Cd) consumed by humans originates from phosphatic fertilizers sources.[20] The EU, among others, has been adamant at imposing strict removal requirements of this metal from fertilizer products and European countries have consistently lowered the content of cadmium allowable in fertilizers. Presently, these limits vary between among the EU Member States between 22 to 150 mg cadmium/kg of phosphoric acid (or 50-344 mg cadmium/kg phosphate). They range from binding requirements to mere propositions in several European countries. The most stringent requirements are those found of Norway, Finland, Sweden and Switzerland, which impose cadmium content thresholds of 7 ppm in most current grades of commercial phosphates.

In phosphate extracted from the Hassa and Abiyad mines, the cadmium content is sometimes slightly less than the EU limits on cadmium. However, phosphate from the Shidiya mine usually has a slightly higher cadmium content than the limits, and in many times has a significantly higher content level.[21] Since

[20] Arafat Ghousheh, *et al.* (1997).

[21] The phosphate rocks in Jordan are endowed by relatively low Cd contents, a matter which is rarely encountered in sedimentary phosphates. Cd contents in El-Hassa and El-Abiad phosphates range about 3-6 ppm, but most frequently from about 3-4 ppm. Cd contents in Shidiya phosphate range from 3-15 ppm, but most frequently from 3-6 ppm (Arafat Ghousheh, *et al.*, 1997).

the current strategy of the JPMC is to focus production of the phosphate rock in the Shidiya mine, the removal of cadmium will be a significant matter for the JPMC to consider in its production strategy.[22]

The total removal of cadmium from rock phosphate directly is considered technically impractical and uneconomic at US$25 per ton. However, there are several processes that are currently being developed for the complete or total removal of cadmium from phosphoric acid, including: cocrystallization of cadmium with anhydride (estimated cost is US$8 per ton); precipitation of cadmium with sulfides (estimated cost is US$15 per ton); use of ion-change resins (estimated cost is US$35 per ton); and solvent extraction (estimated cost is US$26 per ton).[23]

Potential Impacts on DAP Exports from Producing Lower Cadmium Content in P_2O_5[24]

This empirical portion of the study focuses on the impact of EU environmental regulations on the cost of fertilizer production in Jordan, including components such as phosphoric acid. This section specifically address the cost of removing cadmium, a poisonous metal, from phosphoric acid. Phosphoric acid and di-ammonium phosphate fertilizer (DAP) are produced at the Jordanian Fertilizer Complex, one of the JPMC departments located in Aqaba in southern Jordan. The production capacity of the phosphoric acid complex after rehabilitation amounts to about 1,310 tons/day. The majority of the acid is transformed into DAP. Present cadmium content in produced diluted phosphoric acid, concentrated acid, and DAP are respectively about 3.5 ppm, 7 ppm, and 9 ppm, which are below the levels stipulated by most European regulations. However, future JPMC strategic objectives necessitate that the removal of higher cadmium contents may be required in the span of a few years.

The production of DAP depends on two main components, phosphoric acid and ammonia. Therefore, the demand for phosphoric acid is a derived demand warranted by the production of DAP. Any production cost increase in the input translates into an increase in the cost of producing DAP, with the increase in the total cost being dependent on the cost and relative weight of the input. Approximately 47% per ton of the total weight of DAP is comprised of phosphoric acid.

The importance of cadmium removal stems from the fact that since the removal process is costly to the company, the price of phosphoric acid is likely to rise causing the price of DAP to increase. However, the company will be able to market DAP fertilizers more readily, particularly in countries where environmental regulations are enforced, if more cadmium removal takes place.

Empirical Method

In order to estimate the likely impacts on production and exports of DAP due to cadmium removal, two pieces of information are needed: (1) the increase in the price of P_2O_5 price due to cadmium removal; and (2) the impact on supply and exports from the input price increase.

Regarding the first piece of required information, note that the production of DAP depends on two main components, phosphoric acid and ammonia. Because of the vertical nature of JPMC (from mining to P_2O_5 to DAP, etc.), it can be assumed that any production cost increase in P_2O_5 due to cadmium removal translates into an increase in the cost of producing DAP.

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[22] Currently significant research is underway at the JPMC regarding the cadmium content problem with particular emphasis on Shidiya phosphate where several studies have been carried out.

[23] Some of these processes have reached the industrial adaptation stage while others have not. Additionally, in order for the usage of phosphoric acid in fertilizers to be feasible, the cost of the cadmium removal must be at a minimum, otherwise only feed and food-grade usage of phosphoric acid could support such costs. In view of this, any means, arrangement, or maneuver that leads to the reduction of cadmium contents in the phosphatic fertilizers while maintaining the economic cost at a minimum will be considered a comparative advantage or gain.

[24] Similarly, the analysis can be extended *inter alia* and without any loss of generality to the removal of uranium from phosphoric acid.

Regarding the second piece of information, a simple partial equilibrium model of production and exports developed by Larson (1998)[25] can be used as a starting point. For notation, let w represent the price of P_2O_5; let X the amount of P_2O_5 used in DAP production; let Y represent DAP output; and let P represent the DAP export price in Jordanian dinars.[26]

In percentage terms, the impact of higher P_2O_5 on DAP production can be written as:

1) $Eyw = -(wX/pY) * Eyp * E'xy$

Where wX/pY is the share of P_2O_5 costs in DAP revenues, Eyp is the price elasticity of supply for DAP, and $E'xy$ is the elasticity of the cost-minimizing input demand with respect to output levels. As a result, the final impact of higher prices on DAP production depends on costs (wX/pY), the basic market responsiveness of the industry (represented by Eyp), and the technical structure of production (represented by $E'xy$). Thus, using the results in (1), if $Eyw = -0.01$ and the price of P_2O_5 increases by 10%, the DAP output would be estimated to fall by -0.1%.

To translate the above production changes into export changes, where Y is production and e is exports, Larson (1998) shows that:

2) $Eew = (Y/e) * Eyw$

Eew is the export supply elasticity of DAP with respect to the P_2O_5 input price. As a result, it measures the percentage change in exports due to a percentage change in the price of the input (P_2O_5).

At the most simple level, equations (1) and (2) show how to estimate the impact on DAP exports from higher P_2O_5 prices due to new environmental standards (e.g., in an importing countries due to new requirements on cadmium removal). While this section focuses on cadmium removal, we note here that this same process can be more or less used in the future to also analyze the impacts of revised uranium or thorium content standards on Jordanian exports.

One should also consider the possibility of an efficiency enhancement in the processes leading to the removal of cadmium, or the emergence of methods that lead to partial (instead of full) removal of cadmium such that the resultant DAP would be consistent with the most stringent international requirements. Should either of these likely possibilities occur, the adverse impact on exports of compliance with the new limits would be diminished considerably.[27]

To calculate this effect, Larson (1998) shows that the results in equations (1) and (2) above may be reduced somewhat if efficiency improvements are possible in the use of the input so that less of the input is needed to produce the same level of output. In a competitive industry model the efficiency improvement provides a second round outward shift in the supply curve offsetting some of the initial decrease in supply induced by the input price increase.

Thus, if Eqw represents this efficiency improvement, then it can be shown that:

3) $E'yw = (1-Eqw) * Eyw$

and

4) $E'ew = (Y/e) * E'yw$

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[25] Larson, B. (1998).

[26] The Jordanian dinar (JD) is officially pegged to the US dollar at a rate of exchange of JD1=US$0.71.

[27] See Porter, M. (1990) for an assessment of efficiency gains due to stricter environmental regulation.

The similarities between Equations 3, 4 and 1, 2 are apparent. *E'yw* is the elasticity of supply of DAP with respect to the price of the P_2O_5 given the efficiency improvement; *Eqw* is the efficiency elasticity and *E'ew* is the export supply elasticity of DAP with respect to the input price.

In addition, depending upon the size of the firm and its dominance of the world market, some of the input costs may be passed along to the consumers in importing markets in the form of higher prices. If *Edp* represents the elasticity of import demand with respect to the DAP price level, this possible international price adjustment can be included in the analysis as:

5) $Epw = E'yw / (-Eyp + Eep * (e/Y))$

6) $E''yw = E'yw * A$

7) $E''ew = (Y/e) * E''yw$

Where *Epw* is the elasticity of output price with respect to the input price, *Eep* is the international demand own-price elasticity, and *A* is the price adjustment factor showing how much of the initial shift back in supply is mitigated through export price adjustments. Equations 5-7 also assume that domestic consumption is zero, so that $e=Y$.

$A = 1 + [Eyp / (-Eyp + Edp)]$

Equation 5 shows that *Epw* is directly related to the output cross-price elasticity with respect to the input price given the efficiency improvement and inversely related to the supply own price elasticity and export price elasticity. Equation 6 is an adjustment by *A* of the output cross-price elasticity given the efficiency improvement. Equation 7 is similar in interpretation, *inter alia,* to Equation 4.

Thus, the model outlined in equations 1-7 above provide three possible ways to estimate the impacts of higher P_2O_5 prices on DAP exports. In other words, there is a simple model that can be built upon depending on if efficiency improvements in the use of P_2O_5 in DAP production are possible and if any price increases can be passed along to consumers in importing countries.

Estimates and Results

While in principle it is necessary to estimate the underlying relationships outlined in the model above, it is possible to estimate as a first step a range of likely impacts based on simple available data and some sensitivity analysis.

The following estimates are based on a P_2O_5 price of US$318.4 per ton (the average price between 1982-1997). Note that the 1997 price of US$224 was the lowest in the data period. Based on available figures reported above, the lowest cost of total removal of cadmium is US$8 per ton and the highest cost is US$35 per ton. If these costs are passed along in P_2O_5 prices, as discussed above, the implied price increases range from about 2.5% (8 / 318.4 = 0.025) with the low cost removal option and about 10% (35 / 318.4 = 0.1) with the high cost scenario. Both the low and high costs are taken to demonstrate the possible range of impacts.

TABLE 1. THE SIMPLE MODEL
(*Equations 1 and 2*)

	Supply Elasticity *Eyp* = 0.5 (assumed)	Supply Elasticity *Eyp* = 1.34 (estimated)
-wX/pY	-0.36	-0.36
Output own-price elasticity	0.5	1.34
Cost-min. input demand elasticity wrt output	1.1	1.1

TABLE 1 (*continued*)

Output cross price elasticity wrt regulated input price	-0.2	-0.53
e/Y	1.00	1.00
-wX/pe	-0.36	-0.36
Export cross price elasticity wrt regulated input price	-0.2	-0.53
Final export reduction: -Low cost increase=2.5% -High cost increase=10%	 -0.5% -2.0%	 -1.33% -5.3%

In other words, Table 1 indicates that a 2.5% increase in the price of P_2O_5 would lead to a 0.5% to 1.33% reduction in DAP production and exports. On the other hand, a 10% increase in the price of P_2O_5 might lead to a 2.0% to 5.3% reduction in DAP production and exports.

Therefore, given that DAP exports reached US$122 million in 1997, a best case scenario would cause a drop in exports of US$0.61 million and a worst case scenario would lead to US$6.5 million drop in export revenues. In either case, the loss is significant.

TABLE 2. EFFICIENCY IMPROVEMENTS
(*Equations 3 and 4*)

	Supply Elasticity *Eyp* = 0.5 (assumed)	Supply Elasticity *Eyp* = 1.34 (estimated)
Efficiency elasticity (assumed)	0.10	0.10
Output cross price elasticity wrt regulated input price	-0.18	-0.48
Export cross price elasticity wrt regulated input price	-0.18	-0.48

Table 2 offers the above findings assuming an efficiency elasticity of 0.1. Under the two supply elasticities scenarios of 0.5 and 1.34, the output and export cross price elasticities (*wrt)* cause the regulated input price to become -0.18 and -0.48 respectively. In other words, the higher the *Eqw* (the efficiency improvement), the lower the resultant cross elasticities of Equations 3 and 4.

TABLE 3. LARGE COUNTRY CASE WITH EXPORT PRICE ADJUSTMENTS
(*Equations 5, 6 and 7*)

	Supply Elasticity *Eyp* = 0.5 (assumed)	Supply Elasticity *Eyp* = 1.34 (estimated)
International demand own price elasticity	-0.72	-0.72
Price adjustment factor *A*	0.59	0.35
Output cross price elasticity wrt regulated input price	-0.11	-0.17
Export cross price elasticity wrt regulated input price	-0.11	-0.17
International price elasticity wrt regulated input price (*Epw*)	0.15	0.23
Final export reduction: -Low cost increase=2.5% -High cost increase=10%	 -0.28% -1.1%	 -0.42% -1.7%

As indicated in Table 3, a 2.5% increase in the price of P_2O_5 would lead to a decrease of between -0.28% and -0.42% in DAP exports assuming international price adjustments. A 10% increase in the price of P_2O_5 would lead to a 1.1% to 1.7% decrease in DAP exports. Therefore, given an assumed *Eqw* of 10%, the large country scenario reflects a range of downward adjustment in exports of DAP from 0.28% to 1.7%, which is significantly smaller than the range demonstrated in the simple model case (-0.5% to -5.3%). Given that DAP exports reached US$122 million in 1997, the range of reduction in export revenues in the large country case is US$0.34 million to US$2.07 million. The yearly loss would thus be lower than in the simple model case by US$0.27 million to US$4.43 million.

Part III: Summary of Findings

Environmental and health concerns in other countries such as the US or EU can have a negative effect on Jordanian fertilizer exports, especially those that are phosphate based. This study is a first step toward delineating possibilities that exist now and are likely to grow in the future, particularly after Jordan becomes a member of the WTO.

The empirical results show the impact of removing cadmium on production and trade. However, the method used can also be applied to the removal of uranium and other matters from P_2O_5 and DAP to illustrate the short-run effect of such a cost increase on the price and exports of DAP. Technical efficiency adjustment results have also been accounted for to underscore the significance of aggressive and immediate research in these areas.

Furthermore, the analysis shows that in the case of cadmium removal from P_2O_5, the environmental regulatory costs are not negligible given that the cost of the regulated input relative to revenues (*wX/pY*) is considerable (0.36) and the output own price supply elasticity is high (1.34). However, the burden of the regulatory costs on the industry will be reduced significantly when efficiency improvements are induced by the regulatory change and some portion of the regulatory cost is passed on to international consumers as a price increase.

Given an elastic supply scenario, the expected production of DAP from 1998-2003 will be 3,930 thousand tons with exports accounting for 3,867 thousand tons at an average price of US$219 per ton. The expected loss due to the regulation of cadmium and subsequently the cost of its removal would accordingly be about US$45 million, resulting from a 5.3% export reduction. However, with efficiency improvements and export price adjustments, the impact on exports would fall to a 1.7% reduction in exports, thus salvaging US$30.6 million in revenues. Hence the need for serious research by the JPMC to determine the most efficient methods for removing cadmium, uranium, and other metals in order to be consistent with the present and anticipated environmental standards and regulations of importing nations.

The importance of the exercise also lies in the fact that it is a "first" in the case of the fertilizer industry in Jordan. It points to areas where improvements can be made to render the industry less susceptible to regulatory concerns, such as lowering price supply elasticity and controlling production to operate at capacity. The findings of the analysis can be used as guidelines for research in the area of demand and supply estimation under regulated and unregulated conditions.

Furthermore, with the increasing importance of environmental regulation and the tendency to harmonize standards worldwide, the Jordanian fertilizer industry needs to become more market-oriented and behave as a profit maximizing industry in order to reap long-run profits. It must also predict the effect of changing global conditions, such as those posed by foreign environmental regulations permitted under the WTO, which could significantly hinder production.

Finally, given the present industry structure and the high level of public sector involvement in its operation and management, strategic planning is not likely to become a major concern for JPMC. Accordingly, a sound policy option may be to speed up the privatization of the industry in order to increase short-run and long-run efficiencies and better deal with the effects of environmental regulations on the vertical and horizontal integration of JPMC production. It is therefore recommended that an investigation be conducted into the scope and impact of possible JPMC privatization on improving compliance with

emerging environmental standards. After all, as Michael Porter says, "Strategic thinking rarely occurs spontaneously."[28]

[28] Porter, M. (1980).

Annex I

THE DATA

Tables 1 and 2 present the yearly quantities supplied and demanded in thousands of tons and the average yearly sales prices in US$ for DAP and phosphoric acid, respectively. All quantities are in thousands of tons and all prices are indicated in US$ per ton.

TABLE 1. DI-AMMONIUM PHOSPHATE (DAP)

Year	Quantity of DAP Supplied (1000 tons)	Exports (1000 tons)	Domestic Sales (1000 tons)	Price (US$/ton)
1982	118	70	0	180
1983	337	393	2	160
1984	569	526	01	214
1985	495	506	3	190
1986	551	555	4	180
1987	605	563	3	172
1988	615	626	12	203
1989	602	578	4	212
1990	596	613	10	195
1991	600	579	9	218
1992	554	558	12	190
1993	470	465	13	150
1994	750	688	13	181
1995	729	690	14	231
1996	671	713	17	235
1997	586	558	18	219

Source: Jordanian Phosphate Mines Co.

TABLE 2. PHOSPHORIC ACID (P_2O_5)

Year	Quantity of P_2O_5 Supplied (1000 tons)	Quantity Demanded (1000 tons)	Exports (1000 tons)	Price (US$/ton)
1982	66	56	0	310
1983	188	158	18	290
1984	294	267	31	332
1985	260	233	32	300
1986	282	259	22	303
1987	283	284	5	272
1988	303	289	8	368
1989	303	283	22	396
1990	297	280	18	333
1991	271	282	6	316
1992	281	260	18	326
1993	215	221	0	320
1994	362	352	6	313
1995	348	343	1	342
1996	326	315	1	349
1997	324	275	35	224

Source: Jordanian Phosphate Mines Co.

Annex II

JORDANIAN ENVIRONMENTAL LEGISLATION

The phosphate and potash mining industries have been regulated by a varied history of environmental and environmentally-related laws over the past century. The first mining laws and regulations in Jordan were introduced in 1926 (four years after independence). The laws were strongly influenced by British law and the Ottoman laws of 1911. Following the adoption in 1934 of the Law of Quarries, the Jordanian government in 1946 adopted another piece of legislation called the Oil Mining Law, which separated oil and gas from the Mineral Act. All of these laws and regulations were in force until the Interim Mining Code No. 44 of 1962 was adopted. However, it was not until 1964, after the House of Parliament had sanctioned it, that this latter act came into force as Mining Code No. 8 of 1964. This law was later integrated with the organization of Natural Resources Affairs in Law No. 12 of 1968. Subsequently, mining regulations adopted under an earlier Mining Code Law, No. 131 of 1966, were reissued in accordance with Law No. 12 of 1968.

Jordan Environment Protection Law No. (12) 1995

The Jordanian Environment Law was ratified by the Parliament in October 1995. It identifies the General Corporation for the Protection of Environment as the administrative focus for EIA implementation in Jordan. The Corporation, according to the law, has the following mandates: to issue guidelines and procedures for environmental impact assessment; to formulate environmental regulations, standards, and specifications for agricultural, commercial, industrial, and housing projects and related services to be adopted as part of the prior conditions for permitting such activities or for their permit renewal; to monitor public and private organizations, including projects and companies in order to ensure their compliance with environmental specifications and standards.

Water, air, and soil pollution monitoring are addressed in Articles 17,18, and 19 respectively. The law also makes illegal the dumping of "polluting or harmful substance into the marine environment or on the regional waters or on the shop within borders and distances determined by the Minister (Energy and the Environment)" in Article 23.

Use of Environmental Impact Assessments

The Jordanian EIA Operational Directive, which is consistent with the Rio Declaration on Environment and Development, Principle 17 requires that EIAs be used as a national instrument for assessing the adverse impact of proposed activities on the environment. An EIAs must thus be conducted prior to the start of investment.[29] Environmental impact assessments (EIAs) have thus been undertaken at the feasibility study stage for a few major projects. However, Jordan has not yet had the opportunity to make a detailed assessment of the current and target status of the environment, nor to promulgate relevant legal provisions. It is nevertheless widely recognized that the same emission standards are not necessarily applicable to each and every situation. It is thus environmentally and economically desirable to assess each case on its individual merits.

Any prospective development should therefore be preceded by an EIA, which should address:

- Present environmental status;
- Target environmental status;
- Type and quality of prospective emissions;
- Impact of emissions;
- Emission control;
- Control technology; and
- Emission and environmental status monitoring.

[29] Gulf of Aqaba Environmental Action Plan, Aqaba Region Authority Environmental Impact Assessment Operational Directive, September 1995.

Gulf of Aqaba Region

Most phosphate mining and processing occurs in the Gulf of Aqaba region. The Treaty of Peace between Jordan and Israel (particularly Annex IV, Section B) stipulates that both nations are to take the necessary actions to cooperate in environmental planning and management including conducting EIA and exchanging of data on projects possessing potential impact on their respective impact environments in the Gulf of Aqaba.

Furthermore, the Agreement on Cooperation in Environmental Protection and Nature Conservation between Jordan and Israel, makes specific reference to phosphate emissions. More specifically, Annex A-10 on "Jordanian Standards for Stack Emissions" states that the maximum allowable limit (mg/m^3) for phosphate emissions from new and existing plants should be 50 and 200 respectively. This is consistent with standards recommended by the World Bank as noted in the table below.

Air Emissions from Phosphate Fertilizer Production

Pollutants	**Maximum Allowable Limit**
Fertilizer Plant	
Fluorides	5 mg/Nm^3 [30]
Particulates	50 mg/Nm^3
Sulfuric Acid Plant	
SO^2	2 kg/t acid
SO^3	0.15 kg/t acid
Phosphoric Acid Plant	
Fluorides	5 mg/Nm^3
Particulates	50 mg/Nm^3

Source: Pollution Prevention and Abatement Handbook *(Part III), World Bank, 1997.*

Other Jordanian Laws relating to the Environment

- Agriculture Law No. 20 of 1973.
- Antiquities Law No. 12 of 1976.
- Aqaba Region Authority Law No. 7 of 1987.
- Crafts and Industries Law No. 16 of 1953 and related regulations.
- Electricity Authority Law No. 8 of 1976.
- Jordan Valley Authority Law No. 18 of 1977.
- Marine Establishment of Aqaba Port Law No. 4 of 1969.
- Municipalities Law No. 29 of 1955.
- Nuclear Energy & Radiation Protection Law No. 14 of 1987.
- Organization of Cities, Villages and Buildings Law No. 79 of 1966 and regulations.
- Organization of Natural Resources Affairs Law No. 12 of 1968.
- Public Health Law No. 21 of 1971.
- Punishments Law No. 16 of 1960.
- Quarries Law No. 8 of 1971.
- Traffic Law No. 14 of 1984.
- Water Authority Law No. 18 of 1988.

[30] Nm^3 means a normal cubic meter.

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PART TWO

IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO TRADE AND ENVIRONMENT COMMITTEE ON TRADE IN ESCWA MEMBER COUNTRIES

SECTION ONE
GENERIC ISSUES

THE TRADE AND ENVIRONMENT DEBATE

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In the context of preparations for the third WTO Ministerial Conference in Seattle, "Trade and Environment" is a contentious issue. This is because there are widely divergent views between developed and developing countries' negotiators on whether trade and environment should be included in the mandate of the forthcoming trade negotiations.

In general, developed countries grant high political priority to the inclusion of environmental and sustainable development considerations in the agenda for the new negotiations. There may be basically three reasons for that. First, there are legitimate concerns about possible environmental effects of further trade liberalization. This has generated calls for sustainability impact assessments as well as other measures aimed at achieving greater integration of trade and environmental regimes. Second, observers in some developed countries see the Seattle Conference and a possible new round of Multilateral Trade Negotiations as a unique opportunity to make progress on trade and environment issues. They believe that in a broad process of trade negotiations, covering a wide range of issues, trade-offs can be identified. Third, policy makers in some developed countries believe that any negotiating agenda that does not pay attention to the environment may fail to generate political support.

Developing countries, on the other hand, oppose negotiations on Trade and Environment. Firstly, they are worried that environmental constraints may be a resurgence of protectionism and unilateral measures. There is also concern that the continued pressure to accommodate certain measures, particularly those based on standards for Process and Production Methods (PPMs) may spill over into other policy areas such as social standards. Secondly, the lack of progress in the implementation of developed countries' commitments under the United Nations Conference of Environment and Development (UNCED) has generated scepticism on how committed those countries are in moving towards sustainable development in an equitable fashion.

It is very likely that the Ministerial Declaration will contain references to environment and sustainable development. This Declaration will have a large impact on how trade and environment may be handled in the post-Seattle process. It therefore requires careful consideration. Clarifying trade and environment issues on the basis of case law, through the WTO dispute settlement mechanism rather than through a process of deliberations, may create a risk to developing countries. There is also a risk that some countries will seek to achieve environmental objectives through unilateral action. This risk may increase to the extent that the outcome of the Seattle Ministerial Conference is perceived as a failure.

1. *Horizontal Issues and Their Impact on Developing Countries*

Convergence and divergence of views

By and large, proposals on Trade and Environment submitted to the WTO councils diverge among developing countries and developed countries.

Developed countries' proposals aim at (a) making environment an important cross-cutting issue throughout the negotiations; and (b) clarifying specific trade and environment issues, which may imply further accommodation of environmental considerations into the multilateral trading system. These countries' proposals focus on:

- "Mainstreaming" environmental considerations in WTO Committees and future negotiations.
- Clarifying the relationship between trade measures pursuant to Multilateral Environmental Agreements (MEAs) and the Multilateral Trading System (MTS).
- Examining the compatibility of eco-labelling schemes with WTO rules.

- Enhancing the role of environmental principles, such as the Precautionary Principle in WTO Agreements.
- Conducting sustainability assessments and national environmental reviews of the impact of trade policies and agreements.
- Increasing transparency and making further arrangements for the relation with Non-Governmental Organizations (NGOs).

Most developing countries' proposals, on the other hand, focus on specific issues that have been discussed in the Committee on Trade and Environment and generally relate to environmental considerations in the implementation of different WTO agreements. Proposals largely focus on:

- The effects of environmental measures on market access.
- The issue of the export of domestically prohibited goods (DPGs).
- General issues stemming from the Agreement on Trade Related Intellectual Property Rights (TRIPS).
- Strengthening complementarities between the Convention on Biological Diversity (CBD) and the TRIPs Agreement, by reflecting the CBD principles in the TRIPS Agreement.

Towards consensus. Based on the proposals of developed and developing countries, a draft ministerial text aimed at identifying points of convergence and divergence has been proposed. There is, however, no pretension that the draft text represents a certain level of consensus. Issues of convergence between many developed and developing countries include:

- Pursuing the trade liberalization agenda in accordance with the objective of sustainable development.
- Identifying " win-win" situations, in particular with respect to agriculture, fisheries and environmental services, as well as in other sectors.
- Continuing the work of the WTO Committee on Trade and Environment (CTE) and the Committee on Trade and Development (CTD).

Implications of the main proposals for developing countries

Environmental principles. To take account of sustainable development and environmental objectives throughout the negotiations, developed and developing countries have taken different approaches.

Developed countries emphasize:

- The right to apply high environmental standards (United States);
- The need to contain a reference in the Ministerial declaration to the Environmental principles from the Rio Declaration, particularly the precautionary principle (European Commission, Norway, Switzerland);
- The need to undertake sustainability assessments at the national level (United States, European Commission, Norway, Canada).

Developing countries, in response, have taken the position that:

- Environmental standards should reflect environmental and developmental conditions to which they apply (Principle 11 of the Rio Declaration);
- The principle of common but differentiated responsibilities (Principle 7 of the Rio Declaration) should apply.

Many developing countries have argued that selecting only some of the Rio Principles may risk undermining the Rio objectives of pursuing sustainable development on the basis of equity. In this context, incorporating environmental principles into the Ministerial Declaration while dealing separately with developing countries' concerns by including the principle of Special and Differential (S&D) treatment, could create some problems. The views often expressed by developed countries regarding the extent to which such supportive measures can be specified in WTO agreements may aggravate this problem.

Transparency. Many Non-Governmental Organizations (NGOs) argue that there is a need to make the WTO, in particular its dispute settlement mechanism, more open and transparent in order to build public support for further trade liberalization and confidence in the WTO. The United States has expressed similar views in its proposal on Trade and Environment by stressing that it is possible to resolve problems in the area of transparency, while respecting the government-to-government character of the WTO and its operations.

Like other countries, developing countries may benefit from certain measures aimed at increasing transparency. For example, de-restricting documents and making information available to a wider range of developing country participants would lead to more informed participation. However, certain proposals such as facilitating the submission of *amicus curae* briefs to dispute settlement panels may, in practice, accentuate imbalances in the Trade and Environment Agenda.

At present it is not clear how panels and the Appellate Body will interpret the term to "seek" information from NGOs (which may include both environmental NGOs as well as the business community) and expert opinion. The panel procedure may be overloaded with such *amicus curae* briefs in which case some selection criteria may be needed. This could defeat the purpose of transparency. Also, NGOs in the South have less financial resources to avail themselves of such opportunities. Any formalization of *amicus curae* briefs will, over time, enable other powerful interest and pressure groups, including from the private sector, to follow this route. This could significantly increase pressure on dispute settlement panels.

Developing countries are concerned that calls for "transparency" may have the effect of changing the balance of rights and obligations as well as result in greater influence of NGOs, particularly from developed countries, on the dispute settlement process.

Mainstreaming and the role of the CTE. The term "mainstreaming" was introduced into the Trade and Environment debate by the European Commission (EC). In the process of preparations for the High Level Symposium on Trade and Environment, the EC proposed to examine "the scope for and need to factor environmental concerns into the WTO across the board (mainstreaming)". The EC further proposed that "each relevant WTO committee should deal with environment in the area under its authority". Other countries, such as Canada, Iceland and Norway have also made suggestions concerning "mainstreaming".

The United States proposes that "Ministers call upon the Committee on Trade and Environment, acting within its mandate, to serve as a forum for the identification and discussion of links between elements of the negotiating agenda and the environment and public health". However, both the EC and the United States make it clear that negotiations on these issues would be the responsibility of the relevant negotiating groups.

Mainstreaming may pose certain risks to developing countries. First, diffusing the environmental agenda to several committees risks to undermine the balance in the agenda of the CTE. Diffusing the CTE agenda would also mean that several checks and balances would no longer be possible.

Second, the Marrakech Decision which set up the CTE made it clear that any recommendations stemming from CTE's work would need to command the broad support of the WTO membership. To the extent that mainstreaming implies that environmental aspects be considered in all the negotiating groups, with the CTE playing only an advisory role, the consensus-based character of the CTE's work could be affected. This could have the effect of forcing the pace on certain issues without consensus on the need to do so.

Third, mainstreaming the environment into several committees would make it more complicated for developing countries to participate effectively in corresponding WTO deliberations and negotiations. Developing country delegates would find it difficult to give attention to environmental issues as "environment" would be diffused in several committees and meetings.

Some have suggested that the CTE could play a role similar to that of the Committee on Trade and Development. The CTD is already mandated by GATT/WTO to provide an advisory role concerning the development aspects of all negotiations. The CTD's advisory role, however, has been relatively limited as most recommendations have been in the nature of best endeavour clauses, without any sanction for non-compliance. For example, failure to provide Special and Differential (S&D) treatment is not judiciable. Remedies to environmental problems could be sought through the use of trade measures, whereas remedies to development problems have never been sought through the use of trade measures.

Also, if such a dual structure were created, there may be some pressure to transfer development-related trade and environment issues -such as transfer of technology, DPGs and market access- to the CTD, leaving the CTE to deal only with issues related to the use of trade measures for environmental purposes. Such a distinction would upset the balance in the agenda of the CTE.

There is broad consensus between all WTO Members to continue the work of the CTE. Developing countries insist that the CTE should maintain its balanced agenda. Several developing countries seem to support the idea contained in the US proposal that the CTE should serve as a forum for the discussion of links between elements of the negotiating agenda and the environment, although there is a need to clarify its implications. There are differences of views on the question whether the results of such discussions should be reported to the relevant negotiating groups, or only provide inputs to individual WTO Members, who can then use the arguments exposed during the analytical process of the CTE in whatever negotiating forum they deem appropriate.

Several developing countries consider that the CTE should be able to conduct a "cross checking" of the development of issues with environmental consequences being considered in different committees during the forthcoming negotiations.

2. *Specific Issues in Trade and Environment*

Trade measures taken pursuant to MEAs

While there is broad consensus that there should be a harmonious relationship between MEAs and the multilateral trading system, there is no agreement on whether or not a modification or interpretation of WTO rules is needed to prevent conflicts between these two legal instruments.

Developed countries proposals. The European Commission has argued that there is a need to provide MEA negotiators with a clear indication of possible packages of measures they can design in the process of negotiating multilateral environmental agreements. The EC has argued that trade measures "pursuant to" MEAs should not be challenged in the WTO, as this would undermine both the multilateral trading system as well as the international environmental agenda. The EC has further argued that legal clarity is particularly relevant in the context of future agreements.

The EC proposal recommends that WTO rules should further accommodate MEA trade measures, but does not specify how. However, the EC would be considering various options, such as:

- Adopting an interpretation or understanding of GATT Article XX.
- Amending Article XX to provide an "environmental window" for current and future MEAs that satisfy certain criteria.

The United States argues that there is already sufficient flexibility under WTO rules to address environmental challenges through MEAs. The United States believes that the possibility of conflict can be

substantially reduced through policy coordination at the national level.

Norway also favors the accommodation of trade-related instruments pursuant to Multilateral Environmental Agreements (MEAs). Its proposal does not offer specific language, but Norway may be supportive of a GATT Article XX adjustment. Switzerland proposes that negotiations should inter alia aim at clarifying the relationship between the multilateral trading system and MEAs, but does not favour negotiations on GATT Article XX. Switzerland believes that clarification can be best achieved through the establishment of appropriate principles, rules or procedures.

Possible implications for developing countries. Developing countries argue that GATT Article XX already provides sufficient room for trade measures, which are implemented in an appropriate, non-discriminatory way. They point out that no trade measures pursuant to MEAs have been challenged in the WTO until now, and that it is unlikely that this would happen in the foreseeable future. Developing countries further argue that the international community should focus on supportive measures to assist them in joining MEAs and complying with their obligations under such agreements.

In the WTO Council, the Republic of Korea has argued that it is necessary to clarify the scope and conditions under which WTO provisions can accommodate trade measures taken pursuant to MEAs for the following reasons:

- There is a need to clearly differentiate between trade measures specifically mandated by genuine MEAs and unilateral trade measures to deal with environmental challenges outside the jurisdiction of the importing state.
- Clear-cut guidelines or an understanding in the relevant WTO provisions is desirable for preventing or reducing potential conflict, thereby better managing resources and alleviating the DSB from a potentially heavy workload.

Accommodation of MEA trade measures in the multilateral trading system may have significant implications for developing countries. The EC proposal in particular poses several risks to developing countries. Concerns expressed include the following:

- Further accommodation of MEA trade measures could affect the balance of rights and obligations under the WTO.
- Discriminatory trade measures against non-parties could be used effectively only against economically weaker trading partners. Developing countries cannot use trade measures to induce developed countries to join MEAs of which they are not a member.
- Accommodating trade measures may reduce incentives to search for supportive measures.
- Certain forms of accommodation could imply that trade measures purportedly taken "pursuant to" an MEA by one or several Parties, and which are regarded arbitrary and unjustifiable by other Parties, could no longer be challenged at the WTO.

On the other hand, developing countries may also wish to consider the fact that Appellate body decisions may have widespread effects including a possible precedent setting on interpretations of Article XX. This could imply that even if clarification of the scope of measures covered by Article XX (sub paragraphs b and g) XX were desirable, there is no need to amend either the chapeau or the text of Article XX.

Eco-labelling

Some WTO Members, in particular the EC and Norway, propose that the WTO compatibility of eco-labelling should be considered in future trade negotiations. They argue that:

- Providing information to consumers is a legitimate policy objective

- Eco-labels are a "market reality"
- Eco-labels have already been considered GATT-consistent in the Tuna-Dolphin dispute
- The ISO has developed guidelines for eco-labels, which are likely to be adopted as international standards in the near future.

Several developed countries argue that it should be clarified that voluntary eco-labelling schemes, including those using criteria based on non-product related processes and production methods (PPMs), are covered by trade rules and disciplines, provided that there is strict adherence to multilaterally agreed eco-labelling guidelines.

Developing countries, on the contrary, argue that non-product related PPMs are not within the scope of the WTO. Moreover, developing countries argue that:

- Criteria for processes and production methods can discriminate against developing countries;
- PPM-related criteria are not allowed under TBT agreement.

Some argue that eco-labelling only becomes a WTO issue if it causes undue trade effects and that in such case WTO laws provide adequate coverage in terms of its criteria of least trade restrictiveness, as well as arbitrary and unjustifiable discrimination clauses. Some feel that, if necessary, it may be possible to spell out guidelines for the panels on eco-labelling which take account of additional considerations such as mutual recognition and equivalence.

There is broad consensus that notification of eco-labelling schemes can be useful. Mere notification obligations of a measure do not make it automatically consistent with the WTO. For example, Members have an obligation to notify subsidies to the WTO, but this does not imply that all notified subsidies are non-actionable.

The consistency of non-product related PPMs with WTO rules has been discussed extensively and no consensus has been reached. The issue of notification of eco-labelling schemes appears to be a mere technicality as it is already permitted under the TBT Agreement. However, it has been argued that making such schemes consistent with WTO would require the reinterpretation of the TBT Agreement, in particular Articles 7 and 8. There is no consensus to do so.

Are there possible benefits for developing countries? There may be advantages in clarifying the WTO compatibility of eco-labelling based on non product-related PPMs. These possible advantages, however, need to be qualified:

- *Use of TBT provisions:* in principle, greater WTO discipline could help to avoid that eco-labels result in unnecessary restrictions to trade. However, the CTE has already recommended that maximum use should be made of certain provisions in the TBT Agreement (such as provisions on notification, conformity assessment and mutual recognition), independent from the question of the relationship between eco-labelling based on life cycle approach and the TBT Agreement. Eco-labels can be regarded as standards; as such they fall under TBT discipline, regardless of the information contained in the label.
- *International standard-setting*: there is a need to promote effective participation of developing countries in order to achieve a truly international standard.
- *Procedures:* there is a need to seek participation of exporters in establishing criteria
- *Equivalency*: progress needs to be made on the concept of mutual recognition and equivalency.

The Precautionary Principle

The precautionary principle embodies the logic that prevention is often better than cure, and acknowledges that scientific certainty often arrives too late to allow policy makers to formulate policy to

avert serious environmental damage. In the trade context, the precautionary principle suggests greater deference by the trade rules, in certain defined circumstances, to national environmental measures. Recent interest in policy measures based on the precautionary principle has also emerged in response to growing public concern about contaminated food and genetically modified organisms (GMOs).

The SPS Agreement, through Art. 5.7 (see box), already includes the precautionary approach. The SPS Agreement applies science-based disciplines to the adoption and enforcement of national SPS measures to minimize their impacts on trade. National measures must be based on "sound science" and on an assessment of risks involved but it allows governments, under certain conditions, to take provisional measures where relevant scientific information is insufficient. The TBT Agreement does not explicitly include the precautionary approach in its text.

The Precautionary Principle

Principle 15 of the Rio Declaration reads as follows:

In order to protect the environment, the precautionary approach shall be widely applied by Member States in accordance with their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Article 5.7 of the SPS Agreement reads as follows:

In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the necessary information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measures accordingly, within a reasonable period of time.

The EC proposal *inter alia* states that "reviewing of a clarification of the relationship between multilateral trade rules and core environmental principles, notably the precautionary principle, is needed". Norway proposes to include a reference to the precautionary principle in the Ministerial Declaration.

Developing countries fear that faulty application of the precautionary principle may affect market access.

Possible implications for developing countries. Wider use of the precautionary principle may pose certain risks to developing countries to the extent that it may make it easier to introduce overly stringent SPS measures. There is a need to examine the possible abuse of the precautionary approach for protectionist purposes. For example, there may be a risk that the precautionary principle may be invoked not in cases where there is inadequate science, but rather in cases where there is a conflict in the scientific bases. Developing countries could propose further analysis and eventually the development of guidelines for the appropriate use of the precautionary approach in the context of international trade.

Some have suggested that developing countries could consider whether the precautionary principle could be used to develop prior informed consent procedures and, where appropriate, proof by the exporter of a minimum level of safety for trade in inherently risky products (such as domestically prohibited goods, hazardous wastes and chemicals and genetically modified organisms). This may be particularly important in cases where developing countries lack capacity to control and test imports. This, however, is not the rationale for existing proposals. Others, however, have noted that in cases where developing countries want to invoke the precautionary principle, e.g. to control GMOs, SPS Article 5.7 may already provide sufficient scope for doing so.

Environmental benefits of eliminating subsidies

It is argued that "win-win" situations arise when the removal or reduction of trade restrictions (high tariffs, tariff escalation and non-obstacles to trade) and distortions have the potential to yield both direct economic benefits for developing countries as well as positive environmental results.

The United States proposes that the forthcoming trade negotiations should *inter alia* aim at pursuing "win-win" (or "double dividend") results. These could be present in many areas. The proposal identifies three specific areas:

- The establishment of disciplines to eliminate subsidies that contribute to overcapacity in fisheries sector. This work should be carried out in consultation with the Food and Agricultural Organization (FAO).
- The elimination of agricultural export subsidies and the continued reduction of domestic subsidy programmes that distort trade and contribute to the degradation of natural resources (while retaining the so-called "Green Box" for subsidies that have no or negligible impact on trade).
- The elimination of restrictions on trade in environmental goods and services.

Some WTO members, however, have expressed the view that certain subsidies may be necessary and that trade liberalization need not result in environmental benefits. Thus, environment-related issues have also been raised in the context of non-trade concerns (NTCs), as embodied in Article XX of the Agreement on Agriculture. In this context, the concept of "multifunctionality"[1] of agriculture has been mentioned (for example by the EC, Japan and Norway) to emphasize the need to address environmental aspects of agricultural production.

Implications to developing countries. The removal of agricultural export subsidies may bring substantive benefits to a range of developing countries, particularly those with a large, export-oriented agricultural sector. Other developing countries, such as the net food importing countries, could, however be adversely affected. These countries would have to cope with higher world market prices for imported food and reduced availability of food aid. Finally, some developing countries have expressed concern that food security objectives should not be compromised by further trade liberalization.

With regard to fisheries, substantial benefits may also be achieved. However, some developing countries may derive important economic benefits from existing arrangements in the fisheries sector. For example, fishing agreements (which may include subsidies) may provide important economic benefits. These countries need to anticipate possible short-term adverse economic effects that may arise from the elimination of certain subsidies. This could be done, for example, by seeking the replacement of certain kinds of payments that could be considered as subsidies by other forms of assistance, including technical co-operation.

Environmental impact assessments of trade policies and agreements

Trade liberalization should be accompanied by environmental and resource management policies in order to realize its full potential contribution to the promotion of sustainable development. Environmental impact assessments (EIAs) may be useful tools in this context. It has been emphasized, however, that EIAs are not only a tool for the minimization of negative environmental impacts; their principal objective is to focus on and to be used in promoting sustainable development. In a broad sense, the challenge is to promote the integration of environment and economics.

[1] The multiple functions of agriculture include (a) its primary role of producing food and fibre; providing employment as well as (b) prevention of soil erosion, landslides and flooding; conservation of water resources; preserving bio-diversity; maintaining the landscape and providing recreational space through sustainable agricultural activities.

The European Commission, the United States, Canada and some other developed countries have announced that they will carry out "sustainability impact studies" of forthcoming trade negotiations.

Possible implications for developing countries. Environmental impact assessments can be a useful tool at the national level; they may promote policy co-ordination as well as help to identify environmental policy measures aimed at ensuring that trade liberalization contributes to sustainable development.

The Republic of Korea is of the view that the potential impact of the new round of trade negotiations on the environment and sustainable development will differ among Members. Therefore, uniform guidelines and methodologies that do not factor in both country-specific and regional-specific situations for assessing environmental impacts are simply not realistic. Furthermore, environmental reviews should not fundamentally alter the process of negotiations or greatly modify the agreements or the benefits sought from the agreements by the Members.

Multilateral processes (including proposals to consider EIA reports in the context of WTO Trade Policy Reviews) may pose risks to developing countries whereby:

- In certain cases calls for environmental impact assessments could be motivated by protectionist purposes;
- Pressures to attach a commitment to carry out EIAs to the launching and conduct of a possible new round of multilateral trade negotiations may overburden developing countries and have chilling effects on further trade liberalization in favour of developing countries.

Environmental requirements and market access

Several developed countries wish to ensure that trade liberalization is supportive of high public health and environmental standards. For example, the United States proposal emphasises the need to "continue to recognize the right of Members to take science based measures to achieve those levels of health, safety and environmental protection that they deem appropriate—even when such levels of protection are higher than those provided by international standards".

While any country has the right to set environmental standards in accordance with national priorities, there are cases where a balance has to be sought. For example, developed countries should not shift the burden of environmental improvements (e.g. in terms of adjustment costs) to developing countries. In addition, developed countries must ensure that their environmental policies, standards and regulations do not cause unnecessary adverse impacts on developing countries.

How can developing countries safeguard market access in this context? Developing countries, such as India and Kenya, have expressed general concerns about the trade and competitiveness effects of environmental standards in the proposals. In a broad context, other proposals also refer to standards and may affect market access. These include proposals on the issue of exports of domestically prohibited goods and other environmentally risky products. In an effort to maintain market access in the context of such environmental requirements, India proposes that:

- Implementation of Article 11 on technical assistance (e.g. to upgrade conformity assessment procedure in developing countries in order that they gain acceptance in developed markets) should be made obligatory where environmental standards are difficult to comply with, rather than remain a best endeavour clause.
- The provisions for special and differential treatment contained in Article 12 of the TBT Agreement should be fully implemented, in particular with regard to the acceptance in importing countries of self-declaration, and of certification procedures adopted by developing country certification bodies, based on international standards.

- International standardizing bodies should be obligated to ensure the presence of developing countries in the different phases of standard setting as well as to comply with the Code of Good Practice.

Trade related intellectual property rights

The objectives of the WTO Agreement on Trade Related Intellectual Property Rights (TRIPS), which came into force on 1 January 1995, are laid down in its Article 7, which reads as follows: "The protection and enforcement of intellectual property should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations".

An important element in the protection of intellectual property is to ensure that there is a balance between the interests of the innovator on the one hand and the user on the other. This is particularly relevant in the context of technologies required for enhancing environmental protection. When a society chooses to grant exclusive rights to IPR owners, it should have the right to ensure that societal priorities concerning environmental protection and sustainable development are fully taken into account.

Developing countries' concerns. It has been argued that in the context of certain MEAs, the obligation to use specific ESTs to phase out hazardous substances or environmentally harmful processes (for example under the Montreal Protocol) tends to reinforce the monopolistic rights already created by international property rights regimes (IPRs). Short transition periods often inhibit the development of alternative technology so that the patent owner artificially profits from MEA provisions.

Regarding TRIPS and MEAs, India proposes that:

- Exceptions be made in the TRIPS Agreement on environmental grounds for the transfer of technology mandated for use in the context of an MEA. The mechanism of compulsory licensing could be used for this purpose instead of patents;
- Articles 7 and 8 of the TRIPS Agreement should be operationalized by providing for the transfer of technology on fair and mutually advantageous terms. This is particularly applicable to technologies which are mandated by MEAs.

Regarding Article 8.2 and Article 31 of the TRIPS Agreement, which embody the principle that abuse of IPRs should be avoided, Central American countries propose that:

- WTO members should be allowed to use compulsory licenses for environmental protection;
- The description of the circumstances under which Members have the right to use compulsory licences should include terms such as public interest, including public health and the protection of the environment.

TRIPS and biodiversity

The TRIPS Agreement requires that WTO Members apply intellectual property rights (IPRs) to all technologies, including those previously considered unsuitable for monopoly rights, such as plant varieties and micro-organisms. Articles 27.2 and 27.3(b) allow Members to exclude certain biological resources from patentability.

Key issues raised in the trade and environment debate are:

- Possible conflicts between the Members rights and obligations under the Convention on Biological Diversity (CBD) on the one hand and the TRIPS agreements on the other;

- Consideration of wider ethical, economic, environmental and social issues; for example, examining how to protect traditional knowledge, in particular of indigenous communities.

In order to address these issues, several developing have made proposals based on the following principles:

- *Sovereignty:* The CBD recognizes the sovereign rights of States over their biological and genetic resources (Articles 3 and 15). Several developing countries have proposed that the TRIPS Agreement should include provisions, consistent with the Convention on Biological Diversity, indicating that the State exercises sovereignty and inalienable rights over the biological resources within its national territory.

- *Prior informed consent:* The CBD stipulates that access to genetic resources can only occur on mutually agreed terms and with the "prior and informed consent" of States, unless States have otherwise determined. In the CTE, several developing countries have proposed that in all patent applications for biotechnological innovations the country of origin of the germplasm should be indicated. It should also be indicated whether prior informed consent was obtained for the biological genetic resource or traditional knowledge so that mutual benefit-sharing arrangements can be made.

- *Equitable sharing of benefits:* The CBD requires the equitable sharing of benefits arising the commercial use of communities' biological resources and local knowledge (Article 15.7). Some of the proposals, such as those on prior and informed consent may contribute to mutual benefit-sharing arrangements.

- *Protecting the rights of communities, farmers and indigenous people:* The CBD requires parties to protect and promote the rights of communities, farmers and indigenous peoples *vis-à-vis* their customary use of biological resources and knowledge systems (Articles 8j and 10). However, Article 27.3(b) of the TRIPs Agreement is likely to lead to appropriation of the knowledge and resources of indigenous and local communities by mandating or enabling the patenting of seeds, plants and genetic and biological materials. Thus, harmonization of Article 27.3(b) with the CBD and the International Undertaking could be achieved *inter alia* by allowing developing countries to implement *sui generis* law that can provide for the protection of the innovations of indigenous and local farming communities in developing countries. Other proposals by developing countries include a system for the protection of intellectual property, with an ethical and economic content, applicable to the traditional knowledge of local and indigenous communities, together with recognition of the need to define the rights of collective holders could be established on a mandatory basis within the TRIPS Agreement. Finally, a new Article specifying the rights of indigenous peoples and local communities could be included in Part I ("General provisions and basic principles") of the Agreement.

- *Ethical, economic, environmental and social issues:* Moral and ethical concerns arise over the extension of patents to life forms and over the way agreements are arrived at. There are also economic, environmental and social concerns. Some are of the view that plants, animals and essentially biological processes must not be patented. However, by providing Members the option whether or not to exclude the patentability of plants and animals, Article 27.3(b) allows for life forms to be patented. The developing countries propose that the review of Article 27.3 should clarify that plants and animals as well as micro-organisms and all other living organisms and their parts cannot be patented, and that natural processes that produce plants, animals and other living organisms should also not be patentable.

3. *Summary and Conclusion*

There are widely diverging views between developed and developing countries on the question of whether Trade and Environment should be treated in the forthcoming WTO Ministerial Conference and the ensuing trade negotiations.

With regard to developed countries' proposals, developing countries have argued that the balance, as represented in the CTE work programme, will be lost if only some specific issues are selected for negotiation, as proposed by the EC, Norway and Switzerland. For example, the reference made in the EC proposal to a "finite set of specific issues" excludes a number of important items of the CTE agenda.

Similarly, making reference to only some of the Principles in the Rio Declaration is unbalanced. For example, the Precautionary Principle is only one of the set of Rio Principles. It would be more appropriate to refer to the Rio principles governing multilateral cooperation, in particular principles 7, 11 and 12. Principle 7 on Common but Differentiated Responsibilities should be the guiding principle. From this perspective, the reference in the proposal by Norway to "the principle of differential and more favourable treatment of developing countries" to be addressed "separately in the Ministerial Declaration" requires clarification.

Developing countries have argued that some proposals are ambiguous and require clarification. For example, Switzerland's proposal "to elaborate instruments to take better account of basic principles of environmental protection" seems to imply a need for a major reform of the MTS. Also, it is not clear why making sustainable development a "central benchmark" in the new negotiations (as proposed by the EC), requires that priority should be attached to "environmental considerations" rather than economic development, the diffusion or technology or other aspects of human development. In addition, the strong focus on "environmentally friendly consequences" of the final package may be difficult to measure at a multilateral level and need not be uniform across countries.

With regard to specific proposals, developing countries have expressed the following views:

- There is no need for accommodation of WTO rules or revision of Article XX to deal with the use of trade measures pursuant to MEAs;
- Non-product related PPMs are not within the scope of the WTO;
- The Precautionary Principle is just one of the Rio Principles and its faulty application could reduce market access for developing countries.

The Ministerial Declaration is likely to reconfirm the objectives of sustainable development and the protection of the environment. In this context, some have suggested that it is important to consider the language contained in the Preamble of the Agreement establishing the WTO, concerning the need for WTO Members "to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development." Reference could also be made to language contained in paragraph 4 of the Ministerial Declaration adopted in May 1998: "We shall also continue to improve our efforts towards the objectives of sustained economic growth and sustainable development".

Some developed countries have proposed references to high environmental standards as well as certain environmental principles contained in the Rio Declaration. Developing countries have emphasized Principle 7 on Common but Differentiated Responsibilities, as well as Principles 11 and 12. References to environmental principles and concepts aimed exclusively at providing guidance to national authorities, such as the Polluter Pays Principle, appear more difficult to justify.

Some developed countries may propose language, which may have the effect of "mainstreaming" environmental consideration in the WTO Committees and future negotiations. Developing countries should carefully examine the possible implications of any such proposals.

While there is broad support to continue the role of the CTE, some issues need further clarification. Most developing countries want to continue the role of the CTE, with its present mandate and balanced agenda. The US idea of strengthening the CTE seems, under certain conditions, to be supported by several developing countries. However, the idea of making the CTE an "advisory body" requires further clarification to the extent that it might affect the balance in the CTE's work programme and be in conflict with the Marrakech Decision, which made it clear that any recommendations stemming from CTE's work would need to command the broad support of the WTO membership. Some have suggested that the CTE should be able

to conduct a "cross checking" of the development of issues, being considered in different committees during the forthcoming negotiations, that have environmental consequences.

With regard to specific issues, several developed countries may propose language on the need to clarify the relationship between the multilateral trading system and multilateral environmental agreements (MEAs). Alternatively, language could be proposed confirming the important role that MEAs play in addressing global environmental problems, based on multilateral cooperation and the Rio Principle on Common but Differentiated Responsibilities. There may also be a need for language encouraging the effective implementation of supportive measures. Several developing countries are proposing to strengthen complementarities between the Convention on Biological Diversity and de TRIPs Agreement, by better reflecting the principles of the CBD in the TRIPs Agreement. It is also important to examine the challenges posed by TRIPs in meeting environmental standards mandated either by MEAs or by the national standards of the major export markets.

Safeguarding market access through a better enforcement of both the S&D clauses of the TBT as well as better understanding and acceptability of developing country environmental standards should be encouraged. With respect to dispute settlements, it should be emphasized that environment related disputes have thrown up several new dimensions to dispute settlement which should be discussed and a consensus reached on providing some guidance to the DSB.

Certain alliances are emerging between groups of developed and developing countries in pursuing "win-win" results, especially in agriculture, fisheries and environmental services. However, some have noted that since further trade liberalization in agriculture is already mandated by the Uruguay Round Agreement, trade liberalization measures should be implemented without seeking trade-offs.

Sustainability assessments may be preferred over EIAs as they emphasize the sustainable development impacts of trade agreements, which weigh costs and benefits in economic terms. Any such assessments should be carried out at the national level.

There is also a need to stress the importance of policy coordination at the national level as well as solutions outside the multilateral trading system.

A WTO PERSPECTIVE ON TRADE AND ENVIRONMENT[1]

Introductory Speech at the Expert Group Meeting on Trade and Environment in the ESCWA Region Beirut, 2-4 November 1999

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It must be recalled that the mutual supportiveness between trade and environmental objectives was explicitly acknowledged already at the WTO Ministerial Conference in Marrakesh in 1994. Realizing these mutual gains is actively sought after by WTO Members. But given the complexity of trade – environment interlinkages the need for further discussions is more than warranted. For the sake of preserving what is an open, non-discriminatory and equitable system of rules that ensures both free trade and effective environmental protection, the WTO will have to continue to be wary of attempted encroachments of protectionist forces, which might as well come in environmental disguise, onto its provisions.

It might therefore be useful to illustrate some means and instruments the WTO provides to find a balanced approach for the accommodation of legitimate environmental concerns on the one and the prevention of protectionist abuse or unjustifiable discrimination on the other hand. Three essential areas are touched upon to illustrate the difficulties in striking this balance: (i) the possibility of trade measures to be challenged under the WTO's dispute settlement mechanism; (ii) the "WTO-compatibility" of multilateral environmental agreements (MEAs); and (iii) the question of conformity of eco-labels with WTO rules.

A basic notion underlying WTO rules and disciplines as they relate to environmental policy is that Members are essentially free to adopt environmental policies of their choosing. Members are held, however, to follow basic principles, such as non-discrimination and non-use of quantitative import or export restrictions. Members may invoke GATT Article XX to derogate from these disciplines. When so doing, they have to demonstrate that the environmental measure falls under the exceptions contained in that Article, such as paragraph (b): "necessary to protect human, animal or plant life or health", or paragraph (g): relating to the conservation of exhaustible natural resources". They must also show that, in accordance with the headnote of Article XX, the measure is not an "arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade".

In the two environmental disputes that the WTO has pronounced upon so far, there has been a problem of discrimination. In the shrimps – turtle case, the Appellate Body found that a substantial relationship can exist between a measure violating basic WTO principles, such as the import prohibition imposed by the United States on certain shrimps and shrimp products, and the environmental policy goal of protecting sea turtles. Furthermore, with the United States also imposing restrictions on the domestic harvesting of shrimps, the US conservation measure for sea turtles provisionally qualified under paragraph (g) of Article XX.

However, it did not qualify under the headnote just quoted. While the measure as such was considered to be an appropriate means to an end, in this case species conservation, its *application* was considered to constitute a means of arbitrary and unjustifiable discrimination. I believe that this shows that accommodation of environmental measures in the WTO is possible without undermining its open, non-discriminatory character. The challenge in the future may be to establish a balance in a way that promotes predictability and the rule-of-law, and that ensures the coherence of trade and other policies. It must promote multilateral cooperation and ensure that developed countries, when seeking to address international environmental problems, honour their commitments to assume obligations of common but differentiated responsibility.

[1] The opinions expressed here should be attributed to the speaker and not to the institution he represents.

This leads on to the second point: Clearly, WTO Members support and encourage multilateral solutions to transboundary environmental problems in the form of MEAs. These are seen to be preferable to unilateral solutions running a much higher risk of arbitrary discrimination and disguised protectionism. Some MEAs included trade measures agreed to not only amongst parties, but adopted by parties to the MEA and directed against non-parties.[2] Problems are not likely to arise in the WTO over trade measures agreed and applied amongst parties to an MEA. In general, there are dispute settlement provisions in MEAs for parties. What remains, however, is the possibility that the WTO's dispute settlement mechanism might be called upon as a last resort by a WTO Member who considers its WTO rights nullified or impaired through measures taken under an MEA it is not party to. At the same time, a party to an MEA may have an obligation to other MEA parties to restrict its trade with the complaining MEA non-party. Another question is how to accommodate within the WTO measures taken in furtherance of the goals of an MEA but not directly required or explicitly authorized thereunder.

Several ways of dealing with the relationship between trade measures in MEAs and WTO rules have been proposed: First and foremost, it is important to note that of the approximately 200 MEAs currently in force, only about 20 contain trade provisions. No disputes have thus far arisen regarding trade provisions contained in MEAs. That is why some Members argue that the dimension of the problem should not be exaggerated. Some feel that trade measures rarely are the most effective method to achieve MEA objectives, but are only one alternative in a package of instruments, including financial and technological transfers. Another view is that in certain cases trade measures can play an important role and that WTO rules already provide broad and sufficient scope for trade measures pursuant to MEAs. In case of any perceived inconsistencies clarification could be provided *ex post* through WTO dispute settlement. The point has also been made that what is needed is improved coordination between trade and environmental policy-makers at the national level.

At the other end of the spectrum, there is a set of proposals aimed at giving MEA negotiators more predictability and certainty concerning WTO compatibility of trade measures *ex ante*. One so-called "environmental window" approach which has been suggested is to establish a WTO Understanding on MEAs whereby panels would not test the necessity of a measure specifically provided for under an MEA, but limit themselves to examining whether or not the trade measure has been applied in a discriminatory manner or to achieve a trade advantage. As a further safeguard, MEAs would also need to fulfill certain criteria, such as openness for participation of all WTO Members and a balanced reflection of views of all parties with a significant trade and economic interest in the issue.

So, in the case of MEAs, several ways have been proposed of how to achieve this balance between accommodating legitimate environmental policies while preserving the open, non-discriminatory character of the WTO, and these are still being under consideration by the Committee on Trade and Environment (CTE). Turning to the issue of eco-labelling, it can be demonstrated why it is so difficult to find a consensus on what the proper balance could be, and why further discussion and clarification are needed to identify viable solutions in the first place.

One the one hand, it is widely recognized among Member countries that well-designed eco-labelling programmes can be effective environmental policy instruments: They foster environmental awareness amongst consumers and market transparency. Possible pitfalls, on the other hand, lie with differences in the design of eco-labelling schemes. Particular concern is voiced about those based on life-cycle analysis (LCA), that is the consideration of the environmental effects of products including processes of production and final disposal. Being difficult and costly to conduct, LCA tends to be based on a selection of certain aspects of a production process. If foreign interests are absent from the consultation process regarding the criteria used for awarding eco-labels, non-tariff obstacles could be created by not taking into account the specific environmental situation in foreign countries or the arguments of foreign suppliers in favour of different production methods. This is all the more of concern, as increasingly eco-labels are based on unincorporated, *i.e.* non-product-related processes and production methods (PPMs), that is on criteria

[2] Examples include the Montreal Protocol on Substances that Deplete the Ozone Layer, the Basel Convention on the Transboundary Movement of Hazardous Wastes, and the Convention on International Trade in Endangered Species.

distinguishing between otherwise like products.[3] It should be born in mind in this context that a key WTO concept, embodied in the "non-discrimination" clauses, is like treatment of like products.

Mandatory eco-labels are definitely covered by the Agreement on Technical Barriers to Trade (TBT), which requires non-discrimination and that *unnecessary* obstacles to international trade not be created. Although many eco-labels are designed and applied on a voluntary basis by non-government bodies and their coverage under WTO rules is far from clear, WTO disciplines can contribute to forestalling their potential protectionist abuse. WTO Members are held to encourage relevant organizations within their territories to adopt the Code of Good Practice which is based on the principles of the TBT Agreement. Although less stringent than for government regulations, this stipulates, for example, increased transparency and participation in the elaboration of standards. Discussions are under way in the TBT Committee to recognize not only equivalence of certain mandatory technical regulations of other countries but also of voluntary standards, such as eco-labels.

To sum up, from the WTO's perspective there is no argument over the importance of environmental protection as a public policy objective; the core of the WTO trade and environment work programme is to help identify the best ways and means of achieving that objective while maintaining an open, non-discriminatory trading system. The three subjects described so far constitute only a part of the full WTO work programme on trade and environment. The key to moving the discussion forward on the work programme will be to ensure that it remains focused on four points:

First, it must remain within the competence of the WTO. In other words, it is not intended that the WTO should become an environmental agency. Nor should it get involved in reviewing national environmental priorities, setting environmental standards or developing global policies on the environment. Therefore, the process in the WTO will be helped immeasurably by progress made on the multilateral environmental agenda.

Second, the discussions must remain sensitive to the situation and needs of the developing countries. In this respect, secure market access opportunities are essential to help developing countries work towards sustainable development. For the most part, it is developed countries that have been responsible for bringing the subject of trade and environment into the WTO. It cannot be concluded, however, without the consent and support of developing countries.

Third, the discussions must remain vigilant to the threat of the use of environmental measures for trade protectionist purposes. Ensuring that "green" protectionism does not find a cover under WTO rules and disciplines is central to calming the fears in many quarters, specifically in developing countries, and to making progress on genuine environmental concerns.

Finally, while we always have to be on our guard against any hidden protectionist agendas, we have also to face the fact that if the WTO is perceived not to respond to genuine public concerns related to trade and environment, this can be a serious threat to the multilateral trading system as well.

[3] An example of an incorporated PPM would be cotton that is grown using certain pesticides and that itself contains pesticide residues. An example of an unincorporated PPM would be cotton that is grown using certain pesticides but that does not itself contain any pesticide residues.

TRADE AND ENVIRONMENT

Seattle and Beyond

Magda Shahin[1]

Introduction

1. Today, after five years of intensive discussion and learning about the relationship between trade and environment, many continue to have mixed feelings about how to go about trade and environment. It seems that this relationship has become a puzzle to traders and environmentalists alike. Both have many a time stood helpless and perplexed in front of this conundrum, turning around how to accommodate environmental concerns in trade policy, without tampering with the trade rules. How to strike the balance between the need for governments to protect and preserve the environment, the boundaries and limits of such protection on one hand, and avoiding its usage as a new protection measure, on the other hand, remains a sensitive and highly controversial issue.

2. Though linking environment to trade has been relatively a recent relationship, it has gathered momentum throughout the last few years, which some would like to perceive as exceeding and going beyond the strong linkages established between environment, poverty and development. Whereas others, notably developing countries see the linkages made between environment, poverty and development forming the basis of the concept of sustainable development as transpired at the Earth Summit held in Rio de Janeiro in 1992[2] after long years of debate.

3. Dealing with the relationship between trade and environment in the WTO has undergone various phases, taking at some point a leading priority among the numerous issues and problems addressed in the framework of the WTO work, where at some other time occupying a lower profile. In all this, the centre question remained how to reconcile the two systems, how to bring the trade and environmental systems closer together, without undermining any, knowing that they are not necessarily always compatible. The two regimes are even often conflicting, as the environmental regime allows taking measures that go beyond ones own borders for sake of protecting the environment - and the WTO does not usually allow for extra-territorial measures[3].

4. This paper arises from a deep concern with the issues of trade and environment and their inter-relationships. The concern stems from the observation that after years of debate and tedious work, the gap seems to persist - if not widen. The integration of trade with environment continues to an unlikely and strained goal prone with immense risks to developing countries in general and countries of the ESCWA region in particular. The paper attempts to raise questions and endeavours to answer a great deal of them. Yet, many questions continue to remain unanswered and open for a wide range of controversies and conflicting views, which necessitate further in-depth work and empirical studies. Whether these should be explored in the WTO or elsewhere remains still an open question.

5. Under the excuse that the WTO's principal role is providing a framework of rules that guarantee transparency and non-discrimination, and which should protect members, from the threat of unilateral measures, the WTO is being used by developed countries as a forum to dump all kind of issues in it. And that irrespective of how much the issues are trade-related. This should tempt us to raise the first set of questions as follows:

6. Are trade and environment conflicting concepts or are they mutually supportive? Do they entail different objectives or are they aiming at similar or even identical goals? Are the new controversies

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[1] Magda Shahin is Deputy Assistant Minister of Foreign Affairs in Egypt. This article, however, is a personal contribution and does not represent the views of her Government.

[2] UN Conference on Environment and Development held in Rio de Janeiro in 1992.

[3] Exceptions are taken under article XX entitled "General Exceptions".

emanating from genetically modified food (GMF), relating environment to trade, health, and agriculture the basis for new potential disputes that could undermine the WTO and the multilateral trading system whose rules we have agreed to by consensus? Are Soya seeds developed recently by Monsanto[4] that increase the yield by 5% good for food security desperately needed in the developing countries? Or are they to be prohibited for their harmful environmental impact? What we have here - in my view - is again a flagrant clash in the relationship between agriculture, health, environment and trade Ministers. Power politics at the national level and international levels will find its way to decide on this highly sensitive issue. Is this yet another environmental problem that would be brought to the WTO in not such a distant future?

7. Who would set the rules for such a loaded and over-burdened relationship? The Trade, the Health, the Agriculture or the Environment Ministers? Whose rights are we to protect? The Intellectual Property Rights or the Social and Development Rights? Whose interests are we to defend? Those of the Industries, or the Consumers, the NGOs or the Governments' interests?

8. The Rio Declaration and Agenda 21 have managed to bring together a delicate balance in the complex relationship between development, the eradication of poverty, and the environment. Today, however, we are still grappling in the WTO with attempts for integrated approaches for the trade and environment interface in so-called synergies and win-win situations, where the trade and environment should be mutually supportive. How to accommodate environment objectives in the multilateral trading system is still being ardently looked for, especially with the appearance of yet new issues such as genetically modified organisms and so-called environmental goods and services.

9. With all these and many other questions are we by any means closer to agreement than few years back? Why are we constantly being pressured to set rules for the sake of protecting the environment in the WTO, at a time when so many questions remain widely open and necessitate further in-depth study? Many developing countries, among which Egypt, India, Pakistan, and Mexico have clearly opposed any attempt to negotiate rules for the environment in the next round of trade negotiations, as in the view of many developing countries this will have the potential of erecting new disguised barriers to trade[5]. Only recently, the trade Ministers of the G-15 at their meeting in Bangalore (India) in August 1999, in preparation for the Seattle Ministerial, expressed their concerns with attempts to give legitimacy to protectionism in the garb of environmental concerns. Ministers urged the Seattle meeting to recognise that environmental standards differ from country to country and that the solution lies in mutual recognition of only product-related standards rather than harmonisation of environmental standards.

10. Others feel that responding to pressures exerted by developed countries to accommodate environment in the trading system might have its merit. They believe that integrating environment in the multilateral trading system could be effective in enticing countries to negate the use of unilateral measures. This in my view is a naïve assessment of the situation at hand. Suffice to remind that one of the basic objectives of the entire Uruguay Round was to do away with unilateral measures. Negotiators, however, recognised that an open renunciation of unilateral measures could not be achieved as the US viewed such measures as part of its national sovereignty and was not ready to tamper with. This was also clearly demonstrated in the Singapore Ministerial report. The report in its factual part stated that *"all delegations except one"* consider that the provisions of GATT article XX do not permit a Member to impose unilateral trade restrictions that are otherwise inconsistent with the WTO obligations for the purpose of protecting environmental resources that lie outside its jurisdiction. In the Conclusions and Recommendations, instead of having clear reference stressing that WTO-inconsistent trade measures applied unilaterally to address extra-jurisdictional environmental problems were unacceptable, the US has certainly succeeded in diluting and weakening such reference. With this in mind one can but be sceptical about any presumption that including environment in the next round would help repeal unilateral measures.

11. How can developing countries, in general, and countries of our region, particularly, resist the continued pressures exerted on us, notably by the EU and US to change WTO rules in order to accommodate

[4] An American life-sciences company that owns patents on several GM crops.

[5] WTO High Level Symposium on Trade and Environment held in the WTO, March 15th, 1999.

environmental concerns? To be able to argue and guard our case on an informed basis, we have to understand the positions and views of the different countries.

The State of Play:

12. For Egypt as well as many other developing countries, the Singapore report remains the benchmark in identifying the possibilities and the margins of maneuver available to the WTO in tackling the complex relationship of trade and environment. These margins are and should be limited - in my view - by the competence of the WTO as a trade organisation, as stipulated in the fourth preamble paragraph of The Marrakech Ministerial Decision on Trade and Environment[6]. From the very beginning the negotiators have agreed on a clear and transparent framework within which the environment could be dealt with in the WTO. They were adamant in making clear that it should not exceed the competence of the multilateral trading system, whose policies are confined to trade and/or trade-related aspects, i.e. only those environmental measures with trade effects.

13. Concerning the consistency element, which negotiators were also keen to establish when accepting to debate the complex relationship between trade and environment, consistency with the development needs and requirements was explicitly referred to. This is reflected in the preamble of the 'Marrakech Agreement Establishing the World Trade Organisation'[7]. By asserting the importance assigned to the protection and preservation of the environment, it emphasised that this be done, in a manner **consistent with the countries' needs and concerns at different levels of economic development**. What is of significance here is that the importance given to environment was not absolute, but linked to the needs and concerns of the countries and their levels of development. I could even argue further that priority is attributed to development, as the protection and preservation of the environment can only be done to the extent **consistent** with the level of development.

14. As for the conditionality aspect and for the purpose of discharging any possible fears of so-called 'green conditionality' attached to market access opportunities, thus nullifying the benefits accruing from trade liberalisation within the context of the UR, the Singapore Ministerial Report (1996) on Trade and Environment[8] stressed the following:

(a) the WTO is not an environmental protection agency and that it is assumed that WTO itself does not provide an answer to environmental problems;

(b) environmental problems require environmental solutions, not trade solutions;

(c) no blank check for the use of trade measures for environmental purposes;

(d) trade liberalisation is not the primary cause for environmental degradation, nor are trade instruments the first best policy for addressing environmental problems;

(e) GATT/WTO Agreements already provide significant scope for national environmental protection policies, provided that they are non-discriminatory; i.e. GATT/WTO rules provide significant scope for Members to adopt national environmental protection policies. GATT rules impose only one requirement in this respect, which is that of non-discrimination;

(f) secure market access opportunities are essential to help developing countries work towards sustainable development;

(g) increased national co-ordination as well as multilateral co-operation is necessary to adequately address trade-related environmental concerns.

15. From the above, it is worth stressing that the first WTO Ministerial was keen on elucidating the reality

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[6] 'The Results of the Uruguay Round of Multilateral Trade Negotiations', The Legal Texts.

[7] The Legal Texts, opcit.

[8] WT/CTE/W/40; November 7,1996, Report of the Committee on Trade and Environment

of the relationship between trade and environment and its rightful stance in the multilateral system. Furthermore the CTE has succeeded on a number of accounts to clarify issues and study them in depth thriving to identify one ground rule that trade is not at the root of environmental concerns. This is of utmost significance, especially in the light of the common mistake by so many today attempting to seek solutions for environmental problems through restricting trade. Much remain to be done, however, to analyse and identify win-win situations as mandated by the Member states.

Preparations for the 1999 Ministerial Conference:

16. If we look briefly at the various proposals put by a number of developed countries, it should not be difficult to disclose where they are heading. It should also not be difficult to see that their objectives are not necessarily concurring with those of developing countries, which will only help deepen the North-South divide. To that end we will be considering proposals[9] from the European Union, Switzerland, Norway as well as the US, as follows:

(i) Proposal by the European Union:

17. In its paper the European Union emphasises that the WTO already recognises the overall objective of sustainable development and proposes that Seattle Ministerial reaffirm this as a central benchmark. There is certainly no harm in doing this as long as it is put in its right context. That is, as long as it is in conformity with the competence of the WTO, consistent with the development needs and requirements of the countries, and does not add new conditionality, as shown above. It was also clear from the ongoing debate that there was no quarrel at depicting the WTO as an environment-friendly organisation. As a matter of fact, the GATT allows for any action to be taken at the national level to protect the environment, provided it is in compliance with its basic rules and regulations. Article XX[10], TBT[11], SPS[12] are all cases in point giving each country the right to set the level of protection that it deems appropriate also in the environment, provided it does not act against the basic principles of the WTO as stipulated by articles I and III[13]. In addition, it should not constitute an unnecessary barrier to trade.

18. If the European Union feels that such is the context of the overall objective of sustainable development in the WTO, I believe no one would have any quarrel with the Seattle Ministerial reaffirming this as a central benchmark. On the contrary, I believe it will command all the necessary support.

19. Furthermore reference was made in the European Union paper to "environmental considerations" and "environmentally friendly consequences" as two terms, which should be borne in mind throughout the negotiations. Such terms cannot be thrown into the debate without any prior definition of their significance and meaning. It would be premature for the European Union to assume generally the existence of positive relationship between trade and environment, before the CTE concludes its work on identifying win-win

[9] Texts of these proposals can be seen from the WTO website.

[10] Article XX entitled 'General Exceptions, gives ample opportunity to use measures to protect (a) public morals, (b) human, animal or plant life or health, etc. The chapeau of the article stipulates that these measures are not applied in a manner, which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade...

[11] The Agreement on Technical Barriers to Trade (TBT) deals basically with technical regulations and international standards, including packaging, marking and labelling requirements, and procedures for assessment of conformity. It further makes sure that these regulations and standards should not constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade.

[12] SPS Agreement on the Application of Sanitary and Phytosanitary measures forms an integral part of the Agreement on Agriculture. It reaffirms in its preamble that no Member should be prevented from adopting or enforcing measures necessary to protect human, animal or plant life or health. These measures are subject to the requirement that they are not applied in a manner, which would constitute a means of arbitrary or unjustifiable discrimination between Members where the same conditions prevail or a disguised restriction on international trade.

[13] Article I: Most-Favoured-Nation-Treatment;
Article III: National Treatment

situations, as mandated and ensuring that environmental considerations and environmentally friendly consequences result in effective market access. This is the essence of win-win situations in the framework of the WTO where benefits to trade should not only be at the heart of any negotiations, but should also be quantifiable and substantial. This is all the more reason to continue work in the CTE to clear the win-win relationship between trade and environment.

20. It remains a puzzle to see that in spite of the extensive and lengthy debate undertaken for more than two years in the CTE on a number of highly controversial issues, they reappear in the European Union paper with a view to accommodating them in the WTO. This is in spite of the fact that results were and adopted by consensus in the Singapore Ministerial (1996). I do not believe that countries would have changed their positions since then so that the European Union could perceive any late consensus emanating from negotiating these issues anew. They are the following:

- Trade measures pursuant to MEAs;
- Certain standards based on non-product-related process and production methods (PPMs), in particular Eco-labels based on life-cycle analysis;
- The precautionary principle;
- Sustainability assessment of the new round;
- Co-operation between the WTO and other institutions, including UNCTAD and UNEP.

21. As regards the first three issues, they are definitely non-consensual issues where their accommodation in the WTO, seems quite remote in an organisation where the practice has been so far to reach decision by consensus. The fourth and fifth issue, however, could certainly be addressed in the CTE for further clarification and position taking.

(ii) Proposal by the US:

22. As for the US suggestion that the CTE confines itself to report its discussions in identifying issues and links between elements of the negotiating agenda and the environment and public health to the relevant negotiating groups, this in my view would amount to undermining the role of the CTE. Many consider the role of the CTE not only as essential in clarifying the complex relationship at hand, but should also serve to reaching clear convergence between Member states on various issues on the agenda before any attempt is made to move to the stage of negotiations. Furthermore it is to note as stipulated by the last indent of the Marrakech Decision on Trade and Environment, that the CTE is invited to provide input to the relevant bodies only in respect of appropriate relations with inter-governmental and non-governmental organisations referred to in article V of the WTO. Such a mandate could not be extended -- as attempted by the US -- to making the CTE to report generally on its discussions on all items included in its programme of work.

23. If the divergence of views in the CTE were to be transmitted to the negotiating groups, it would undoubtedly complicate matters and render the work in those groups futile. The CTE has a specific task and Member states should have sufficient trust that this forum -- established by consensus after strenuous efforts -- is able to accomplish its work programme before being undercut. The US then goes on enumerating a number of issues that should be pursued as providing win-win opportunities, such as subsidies in agriculture and fisheries, the elimination of restrictions on trade and environmental goods and services. One can only presume that such a list is not exclusive, in view of the absence of issues such as:

- Transfer of environmentally sound technology and ensuring a positive relationship between the TRIPs Agreement and the environment;
- The elimination of unilateral environmental measures that affect trade negatively, especially in sectors of interest to developing countries, etc.

24. Such issues are of considerable interest to the largest group of countries in the WTO and represent sound win-win opportunities, which have to be considered thoroughly and a priori by the CTE. Dealing

substantially with these issues would also restore the lopsided balance, which has so far been evident in the CTE debate. In addition the issues proposed by the US are of a more limited nature as they address win-win opportunities in specific sectors. One feels that it is still premature to go into specific sectors, especially in the light of the fact that the CTE has not yet identified or studied any win-win situations in general, as reflected in the issues suggested above.

25. As for the US proposal of "Eliminating Restrictions on Environmental Goods and Services", it should necessitate some additional attention from our countries, as many tend to perceive it as a pure win-win opportunity for developing and developed countries alike. Others go on arguing that we may accept negotiating the elimination of such restrictions, if developed countries deflect the pressure on environment in other areas, such as article XX, PPMs, trade measures pursuant to MEAs etc. It is of utmost importance to understand the essence and even more the implications behind such a proposal. In this context, I would like to bring the following arguments for further discussion:

- To date there has been no agreement on the definition of what should constitute environmental goods and services. This should be the point of departure for any future debate. Should the classification of environmental services take up the larger definition as stipulated by the US, so that it includes all kind of services to all sectors, such as forestry, mining, energy, etc. Or should we confine ourselves to the GATS Agreement, which stands for a narrower definition, as it simply deals with: cleaning up human waste, waste disposal, clean water, etc. As for environmental goods, the US went on listing at least 30 HS of goods with more than 300 products.

- Assuming, as said, that these are pure win-win opportunities, in so far as they liberalise trade and protect the environment. A closer look, however, denotes a more subtle purpose, that of making developing countries an open market for those highly technology-intensive products, as the markets of developed countries tend to become saturated. It is true that cleaning the environment is a noble cause and developing countries should be helped in this domain. The problem at stake, however, is much more profound. Not only does it go beyond the financial means and capacities of developing countries, but also it brings about a production dilemma and a clear structural imbalance in their demand and supply side, which they cannot under any circumstances uphold. Developing countries can no longer be caught in the straitjacket of the paradigm of the developed countries, as even the 'additional' resources once promised are inclined to be forgotten immediately thereafter.

- It is a well-known fact that these goods and services are high technology-intensive products. The question, which arises then, is how to transfer the technology to developing countries. Applying the Trade in Services Agreement would be easy for the environmental services, as this could be negotiated under joint venture in the framework of market access rights and conditions. But what about environmental goods, where the TRIPs Agreement prevails and thus constraints the transfer of technology.

(iii) Proposals by Norway and Switzerland:

26. As regards the proposal by Norway that the CTE should look into win-win situations as well as situations in which economic and environmental gains do not occur from trade liberalisation, many fail to understand the essence of such a proposal. The question, which arises, is whether Norway feels that the WTO as a trade organisation whose prime task is to promote trade should consider situations of negative-sum game, in the sense that protection of the environment should be at the expense of trade. Furthermore Norway feels - and rightly so - that the concerns of developing countries must be taken into account. It then proceeds, however, by saying that the principle of differential and more favourable treatment of developing countries will be addressed separately in Seattle Ministerial Declaration. Norway fails to refer to principle 7 of the Rio Declaration stipulating Common and Differentiated Responsibilities for countries, which is at the heart of any environmental debate. Principle 7 should be addressed as an integral part of any trade and environmental debate irrespective of dealing with special and differential treatment as a cross cutting issue or separately in the Seattle Declaration.

27. As regards to the proposal by Switzerland, it hastens to suggest negotiations on specific trade and environment issues, without paying any attention to all the existing problems, which are of a systemic nature. I do not discern any intention or desire among the largest group of countries in the WTO, of which the majority are developing countries to change the system in order to accommodate the environment.

Future Prospects for developing countries and countries of the ESCWA region:

28. Against this background, it is necessary to consider what could be the future strategy for developing countries, in general and the ESCWA region in particular. A number of options avail themselves, which we should study carefully as to adapt the most suitable and responsive to our needs and requirements.

First option, Ruggiero's option: It should be wise to regard Ruggiero's option as the first line of defence. It was obvious after years of deliberations that all efforts exerted and all attempts pursued to incorporate environment within the WTO system were to no avail. Having realised that, Renato Ruggiero, the outgoing WTO Director General was brave enough to come up with a solution, which is - to my mind - a straightforward and simple one. He explained that all we need is a WTO-similar multilateral rules-based system for the environment - a World Environment Organisation to also be the institutional and legal counterpart to the WTO. Such a proposal was put forward on a number of occasions, the last being the High Level Symposium on Trade and the Environment in the WTO, March 15th, 1999[14]. This view finds even some sounding today. "Indeed, nothing would advance "trade and environment" harmony more than the creation of a Global Environmental Organisation to work alongside the WTO," writes Daniel C. Esty from Yale University in his presentation to the High Level Symposium[15].

Second option, agreeable to the overwhelming majority of the members, is to continue work in the CTE. The reasons for that are numerous from which we state the following:

(i) The newly raised queries as regards to the genetically modified organisms (GMO). Developing countries cannot remain absent or largely spectators and leave the playground solely to the US and the EU to set the rules for the future game in this arena where rules and disciplines are yet to be defined. Developing countries have much at stake in such a debate. The educational process should continue to enable them to participate actively for any balance or choice to be made between precautionary principal or scientific evidence in regard to GMO in the debate. Developing countries should pursue this irrespective of where such a highly sensitive debate might eventually end, whether in the WTO itself or outside its framework.

(ii) To look for synergies in the trade and environment interface and identify situations where trade and environment are mutually supportive. To study possible win-win situations carefully. In the aftermath of the Singapore Ministerial, The CTE was given the explicit task to identify the potential for synergies between open trading system and environmental improvements. Price distorting policies and subsidies particularly in the area of agriculture were identified as encouraging over-use of resources and exploitation of the environment by promoting inappropriate activities at the expense of environmental values. Such situations remain largely debatable by the agriculture subsidising countries, the majority of which are environmental conscious and highly protective of their environment. To name but a few, Norway, Japan and the countries of the EU. Other countries, like Korea, feel that the effectiveness of environmental policies should be judged by each country according to its development priorities and based on country-specific conditions[16]. Whereas other countries like Australia and Argentina continue incessantly to argue against subsidising the agricultural sector as being detrimental and most harmful to the environment. The CTE should address thoroughly this issue, as it is quite obvious

[14] Opening Remarks by Renato Ruggiero to the High Level Symposium on Trade and Environment, March 15th, 1999.

[15] Economic Integration and Environmental Protection: Synergies, Opportunities, and Challenges, by Daniel C. Esty, Yale University, March 5, 1999 (Draft presented to the WTO High Level Symposium).

[16] WTO Trade and Environment Committee, Press Release, 1 July, 1996, PRESS/THE/010

that the issue at stake here goes beyond the environment. It is also being said that artificially low agricultural prices discouraged sustainable farming practices and encouraged migration to urban centres, placing further environmental stress on heavily populated areas. Have all this been studied carefully? Has it been accepted at the multilateral level so that it could form the basis for new rules in the multilateral trading system? Does that not provide sufficient ground for the CTE to undertake further studies in this respect? Furthermore, what about biological resources and traditional knowledge of indigenous communities that should be respected in WTO rules and benefits arising out of their use be equitably shared.

(iii) The US in its communication presented to the General Council on August 6, 1999,[17] referred explicitly to the fact that we must pursue trade liberalisation in a way that is supportive of high public health and environmental standards. It continues that in our efforts to open markets and develop effective rules to address trade protectionist actions, we must be vigilant not to constrain inappropriately the ability of Members to pursue other important and legitimate policy goals. This means, for instance, that we must continue to recognise the right of Members to take science based measures to achieve those levels of health, safety and environmental protection that they deem appropriate – even when such levels of protection are higher than those provided for by international standards.

(iv) Issues such as this raise only more doubts and controversies. Are health considerations not by far more important than trade and narrow Trans-nationals interests? What should take precedence, health and environmental considerations or trade and fierce Trans-national competitions? Is this a WTO or a non-WTO issue? Should that not be discussed properly in the CTE prior to any negotiations on rules in the WTO, be it a new committee affiliated to the agriculture as suggested by Japan or elsewhere? Is environment clashing with trade and health?

(v) The US is the biggest producer with 74% of the world total genetically modified plants, followed by Argentina. The EU, however, offers the biggest resistance to genetic modification due mainly to consumer opposition to GM foods. While genetic modification may provide a solution to feeding the world's growing population, many non-governmental organisations in developing countries fear the control of intellectual property over such as the terminator seeds, which may further marginalize these countries. Developed countries currently hold 97% of all patents world-wide, yet developing countries are the source of 90% of the world's biological resources says the 1999 UNDP Human Development Report. Among the main crops subject to genetic modification are soybean, maize, cotton, and banana – all very important food crops or foreign currency earners in many developing countries. Five years ago the US led the GM revolution with the approval of the first genetically modified food, a tomato. There are now 56 genetically modified farm products on the US domestic market and industry experts predict that within five years all of US agricultural products will either be genetically modified or mingled with genetically modified products. But they remain the property of a few major corporations such as multinational Monsanto that are developing them. Developing countries do not have the financial capacity or human resources to keep abreast of such cutting edge technology[18]. For developing countries, new technology becomes a question of survival. It is about their farmers losing control over their production and seeds. Initially the costs of production will go down and the acquired new technology will increase the yields of crops, but later the farmers will face giant monopolies, and become prisoners of a chain of ever-increasing prices.

29. Facing all these issues and others still remaining widely open, the next round of negotiations can but mandate the CTE to continue its work and study further these issues with a view to proposing clear win-win opportunities where developing and developed countries alike will stand to benefit. In this regard, developing

[17] WT/GC/W/304 (paragraph 4)

[18] "Genetic Plant Resources: A Threat to the South", by G. Mutume. The IPS daily Journal, Terra Viva, Service Daily Journal Vol. 7, No. 145, August 2nd, 1999.

countries cannot accept less than a balanced relationship between trade, environment, and development where their concerns are also taken.

GREEN DILEMMAS OF THE ESCWA REGION: MEAS IN THE TRADE AND ENVIRONMENT DEBATE

by Veena Jha

Introduction

Multilateral environmental agreements (MEAs) are seen as effective counterparts to the multilateral trading system. Not surprisingly their role in the trade and environment debate has been of a seminal nature. The Tuna dolphin panel which spun the whole debate on trade and environment drew a lot of wrath from the environmental community as it deemed that trade measures taken even for environmental purposes should be non-discriminatory in its application. It also questioned the validity of unilateral measures and outlined other less trade restrictive measures which could equally serve environmental interests. Following this panel, the agenda set for WTO discussions sought to limit the use of trade measures to those which were used for internationally agreed environmental problems. Hence the significance of Multilateral environmental agreements (MEAs) which are multilaterally agreed upon to address global environmental problems.

Through seven years of intensive discussion at GATT and later WTO, the role of MEAs in the trade and environment debate has acquired several other dimensions and gigantic proportions. While initially discussions were restricted to the use of trade measures in MEAs and whether they fell foul of GATT rules, discussions have expanded to whether provisions in MEAs such as the Convention on Bio-diversity are consistent with the provisions of the WTO, especially the TRIPs Agreement. Very recently the discussion of instruments in the Bio-safety Protocol was held hostage by the claim that they would be inconsistent with the WTO. It has even been questioned whether disputes relating to trade measures should be settled at the WTO or within the MEAs legal boundaries. What makes the situation piquant is that greens feel that the WTO system has much more teeth than MEAs and hence they would rather that such disputes be resolved in the WTO.

Against this background, the ESCWA region is placed in a unique position. First of all a number of them are dependent on the export of petroleum which is vulnerable to MEAs such as the Framework Convention on Climate Change. Secondly, a number of countries are net food importing countries which implies that MEAs such as the bio-safety protocol which relates to Living Modified Organisms (LMOs) would be of special interest to them. They are also signatories of other MEAs such as the Montreal Protocol, the Basel Convention, CITES, Bio-diversity Convention and would probably be affected by new MEAs such as Prior Informed Consent (PIC) and Persistent Organic Pollutants (POPs). Being a repository of a significant amount of bio-diversity and considerable wealth of traditional knowledge, how bio-diversity issues are addressed by the WTO rules would be of considerable concern to them. Lastly, being net technology importers including for technologies mandated by MEAs, the implications for technology transfer of the TRIPs Agreement would be of concern to the region.

Against this background this paper will investigate the different roles of MEAs in the trade and environment debate taking care to draw out the special implications for the ESCWA region. While this study is not comprehensive in its coverage of MEAs, the purpose is to outline the varied role of MEAs in the trade and environment debate and use specific MEAs only for illustrative purposes. Specifically the role of MEAs in the trade and environment debate relate to the following discussions:

- The use of trade measures
- Dispute resolution
- Trade related intellectual property rights and transfer of technology.
- Charges and taxes and eco-labelling
- DPGs

These points cover a broad range of items in the WTO work programme indicating the comprehensive nature of issues that arise in the context of MEAs. In fact, they cover more than half of the items in the CTE's work plan. See Annex 1. These issues are not exhaustive by any means but only provide an indication of the complexity of the role of MEAs in the trade and environment debate. Each of these aspects is analysed in the

following sections and the recommendations for the ESCWA region have been outlined in the concluding section.

Section 1: The use of trade measures in MEAs and WTO rules

Background

This has perhaps been the most contentious issue in the trade and environment debate. Most national governments particularly because of the UNCED initiative have implemented or ratified some policies which will help protect their local environment. The question of conflict between national environmental policies arises when the economic activity of one nation conflicts with globally agreed environmental norms. In such a situation trade sanctions and other trade related instruments are chosen in preference to others, primarily because of the ease of implementation. This is evidenced by the fact that of the 127 multilateral instruments which have been negotiated so far on environment at least 17 use trade sanctions as a remedy for non-compliance.[1] Furthermore, the only international agreement which has been negotiated to date for the protection of the global commons is the Montreal Protocol on Substances that deplete the Ozone layer.[2] The important trade impacts of this protocol have been felt through the obligation to import substitutes of chemicals and products using chemicals, especially in countries which were major producers of CFCs.

One body of the literature argues that environmentally related trade restrictions may be counterproductive even for its stated objective of environmental preservation, as free trade is likely to be much more effective in tackling environmental problems. The argument for free trade is persuasive as it proposes that increased incomes generated through a process of trade liberalization will provide additional resources that can be directly applied to meet environmental objectives.[3] Economic instruments (such as taxes at source, subsidies etc) which would help internalize global externalities arising from the production process will produce more economically efficient solutions and perhaps better preserve the environment. An added advantage of using economic instruments versus the use of trade instruments is that they are less prone to adverse side-effects, such as loss of competitiveness, market access and growth possibilities which trade restrictions are likely to generate. It is argued by the proponents of free-trade that trade measures may be justified only in very narrowly defined circumstances, and there is almost always a better way of meeting environmental objectives.[4]

The use of trade instruments in global environmental agreements has been justified on the grounds that it prevents free-riders from taking advantage of higher national environmental standards. A clear example of this is to be found in the provisions of the Montreal Protocol which contains no restrictions on trade, but restricts trade with non-signatories of the convention.[5] Another definition of free-riders provided in the literature pertains to environmental policies whose benefits will accrue globally, but whose costs will only be borne locally. e.g in the case of manufactured products, reduction of carbon emissions by one single country will reduce the global emissions of greenhouse gasses but may also impair at the same time the competitive position of that particular country. Similarly reduced access to forests, on account of a national/international plan to preserve forests, may decrease exports and may even increase imports which is advantageous to logging and wood-product industries outside the country but imposes costs on the country which enacts a forest convention. At the same time any contribution that forest conservation makes to slowing climate change or protection of species accrues to everyone.[6] Thus governments are unprepared to act without similar actions being taken by others.

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[1] See GATT report on Trade and Environment, March 1992.

[2] See OECD, 1992, Report on Trade and Environment

[3] See Robertson, D. (1992), "Trade and Environment: Harmonization of Technical Standards", in P. Low (ed.), *World Bank Discussion Paper*, No. 159 (Washington, DC)

[4] See Low, P. (ed.) 1992, "International Trade and Environment", *World Bank Discussion Paper*, No. 159 (Washington, DC)

[5] Ibid.

[6] Robertson, D., op.cit.

While it has been argued that trade restrictive measures are second best instruments and the most efficient instruments are those which act directly on the environment, the perceived ease of enforceability of trade measures make it the preferred instrument of choice.[7] At the same time environmental policies and the use of trade instruments are regarded with concern by the weaker trading partners (i.e the developing countries including the ESCWA), because non-tariff barriers resulting from environmentally related trade instruments or even product standards affect their trading opportunities. Even if environmentally related product measures are not enforced strictly, the spectre of trade sanctions as a punishment for non-compliance with environmental measures looms large over the interests of developing countries. This is being seriously considered as a possibility in the Climate Change convention and could affect the ESCWA countries. This would be specially onerous for ESCWA region if trade sanctions for non-compliance with FCCC were applied unilaterally, without notification and without discourse.

Proposals in the WTO

Because of this inherent tension on the use of trade measures in MEAs, WTO Committee on Trade and Environment has been analysing the relationship between trade measures pursuant to MEAs and WTO rules with a view to recommending a modification of trade rules if deemed desirable by WTO members. Three approaches have been put forward by WTO members to clarify this relationship: (a) the status-quo; (b) the Article XX approach and (c) the waiver approach. Some proposals combine these approaches. However, before analysing these approaches it is necessary to examine the kind of trade measures which could be taken pursuant to an MEA. These could be (a) those mandated by the MEA (b) those which are non-mandated but linked to the fulfilment of the legitimate environmental objective (c) the trade sanction approach which is used to enforce compliance. Among all these approaches only those mandated by the MEA can be considered multilateral in any sense. The other two would be more in the nature of unilateral measures.

The "status quo" approach

The status-quo approach recognizes that there is a de facto coexistence of trade measures pursuant to MEAs and the WTO. Consequently, there would be no need for any amendment or interpretation of WTO rules. It is argued that trade provisions under existing MEAs have never been challenged under the GATT/WTO and that it is unlikely that Governments will challenge in one forum what they have agreed to in another. This would in particular be the case if trade and environment officials in capitals work closely together and if Governments avoid introducing WTO inconsistent measures in new MEAs from the outset. Also, where trade provisions should be seen as part of a package which also involves facilitating mechanisms, such as access to finance and technology, the negotiators of the MEA could ensure that this package takes account of the interests of all countries, so that no country is induced to stay outside the MEA for economic or commercial reasons. Finally, it can be argued that if a large consensus on trade provisions can be reached in the framework of the MEA, trade restrictions on non-parties would generally not be necessary for the achievement of the environmental objectives of the MEA. Most developing countries including those from the ESCWA region favour this approach.

The Article XX approach

This approach involves the negotiation of a collective interpretation or an amendment to the general exceptions in WTO Article XX.

This approach could be implemented in different ways, for example:

[7] A parallel to this argument can be found in Bhagwati and Srinivasan, 1983, Lectures on International Trade, Cambridge, Mass.:MIT Press. Their main argument runs along the lines that economic distortion is best corrected at source rather than through the use of trade instruments.

(a) An amendment of paragraph (b) of Article XX, adding the words "environment" and "measures taken under MEAs"[8];

(b) An amendment of WTO Article XX entailing an additional paragraph which refers to an understanding setting out the conditions for the use of trade measures under MEAs;

(c) A collective interpretation of WTO Article XX (without a formal amendment).

For each of the three alternatives mentioned above, trade measure taken under a MEA are, in any case, subject to the conditions laid down in the headnotes of Article XX, which state that trade measures "should not constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction to international trade". This approach has been favoured by the European Union and other developed countries, but was strongly resisted by developing countries[9]. Following the shrimp turtle panel, however, the focus on amendment of Article XX has however shifted from sub-paragraphs (b) and (g) to the headnote.

The waiver approach

This approach relies on a case-by-case granting of a waiver based on Article XXV:5. This approach is based on an understanding of this Article as a tool which is sufficiently flexible to accommodate trade provisions in MEAs.

Having recourse to a waiver would provide a measured, case-by-case response to any problems that might arise in the future. Under this approach, multilateral consensus would be established on the merits of each case; it could be presumed that if an MEA reflected a genuine multilateral consensus it would find broad support among WTO members and there need be little, if any, uncertainty about the chances of securing a waiver for it. Moreover, trade measures which are not based on a broad international consensus could not escape WTO scrutiny, which would provide sufficient guarantee against any protectionist abuse. This approach would avoid the need for WTO members to elaborate and agree upon general criteria to apply to the use of trade provisions in any future MEA. It would not focus on an MEA but on the trade measures included in it. Finally, the onus to demonstrate and convince others of their case would remain the responsibility of those who were seeking the waiver. Approach proposed by Singapore and the ASEAN that did not find much support among WTO members

Collective Interpretation Approach

Another approach involved the elaboration of criteria, through a collective interpretation of Article XX, but then analysing each MEA on a case-by-case basis through procedures similar to those contained in Article XXV:5. The criteria to be elaborated would be based on four concepts:

(i) The MEA would have to be multilateral from the standpoints of the minimum number of countries which, in the geographical region covered by the MEA, would have to be party to it, and it would have to be open to the participation and accession of any contracting party irrespective of its level of development, market characteristics or geographical location;

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[8] It is important to distinguish between trade measures "under" a MEA and trade measures "pursuant to" a MEA. The first set of trade measures comprise of multilaterally-agreed measures explicitly prescribed by the MEA. An example can be found in the ban on trade in Ozone Depleting Substances (ODSs) with non-parties to the Montreal Protocol of Substances that Deplete the Ozone Layer. The second set of trade measures also include national measures aimed at furthering the objectives of a Multilateral Agreements, which may anticipate or go beyond multilaterally-agreed measures. For example, a number of countries have designed product policies using a range of policy instruments such as product standards, taxes and charges, eco-labelling, voluntary industry agreements and government procurement guidelines.

[9] Currently, environmental protection, is not explicitly covered under Article XX. Most observers, however, consider that the environment is implicitly covered by Article XX.

(ii) The term "environment" should cover any agreement having an environmental protection objective, even if this is not its only objective, recognising the complexity of the concept of this term which in reality embraces various disciplines;

(iii) The trade measure taken pursuant to an MEA should be "necessary" which in WTO terms should mean "indispensable" in order to avoid disputes and leave trade measures as a last resort;

(iv) The phrase "least trade-restrictiveness" should be analysed by the WTO using inputs of and adjusting to each particular MEA.

Options for analysing the necessity and effectiveness of the use trade measures could include a consideration of:

(a) Are trade measures the first-best solution for addressing the environmental problem?

(b) How difficult is the revision of trade provision within the MEA, e.g. in the context of interim assessments?

(c) Is it possible to subject the use of trade measures to an analysis of least trade restrictiveness?

Implications for the ESCWA Region

The main disadvantage arising from this approach for ESCWA countries, is that it may involve renouncing the WTO principle of non-discrimination and it can be questioned whether that would be justified in the case of a measure which could not be considered necessary, effective or proportional. (see Annex B for a definition of these terms as proposed by the members of the CTE). An additional consideration and argument that ESCWA countries may examine is if this could be reconciled with the CTE's mandate that any recommendation for changes to the WTO must be compatible with the non-discriminatory nature of the WTO. Also this approach could upset the existing balance of WTO rights and obligations, which may be especially onerous for weaker trading partners of the ESCWA region. It should be also noted by the ESCWA region that although efforts to clarify Article XX may be desirable, they should be distinguished from attempts to broaden its scope which may de facto result from any amendments of Article XX.

Another disadvantage is that ESCWA countries may always be at the receiving end of trade measures. Indeed, it can be argued that when a MEA already has a large number of signatories, especially those that are significant current and potential contributors to the environmental problem, then trade provisions against non-parties may be of limited relevance. Trade provisions against non-parties are more relevant, however, when the MEA is not yet well established. Put otherwise, the use of trade restrictions which would otherwise be inconsistent with the WTO rules becomes more relevant in those cases where the risk of a certain degree of unilateralism or of an unequitable distribution of costs across countries is also greater. In addition, smaller trading partners are more likely to be adversely affected than larger trading partners. Further if the rights and obligations of an MEA are such that the ESCWA countries opt for not acceding to it, the trading system should not be used, by legitimizing trade measures against non parties, to force countries to become a party to the MEA. This would be particularly applicable to the use of trade sanctions under the FCCC.

The fear amongst developing countries especially after the shrimp-turtle Panel arises from the fact that Panels may overturn the consensus that CTE has been trying so hard to maintain. ESCWA countries must be especially vigilant about this development.

Section 2: Dispute settlement mechanisms in MEAs and the WTO

Background

Dispute settlement is another mechanism through which the carefully created balance of the CTE may be disturbed. Successive interpretations by Panels and Appellate bodies have expanded the scope of sub-paragraphs b and g in article XX, where there is no consensus to do so through the CTE. It is important to examine the impact of this evolutionary interpretation of Article XX, sub-paragraphs b and g on the debate

on trade and environment. While members of the WTO are not bound by Appellate bodies and Panels, their precedent setting value is immense. Other Panels and Appellate bodies while not bound by these interpretations may find it difficult to ignore these interpretations especially because of pressure groups, which have developed around trade and environment.

Most of the discussions at the CTE before the Singapore Ministerial meeting focused on issues relating to the consistency of the dispute settlement mechanisms in MEAs and the WTO. If a dispute concerning a trade measure would emerge between two countries which are both parties to the MEA and WTO members, the question may arise which forum should deal with the problem. This question has been addressed explicitly in some agreements. For example, in the case of the North American Free Trade Agreement (NAFTA), member States have agreed to settle any dispute in the framework of the MEA. The Convention on the Law of the Sea, however. has transferred competence in all matters relating to subsidies and restrictive trade practices to the WTO.

There is, however, no general rule on this issue. It would generally be up to the complainant to determine whether to bring the case to the WTO or to MEA. According to some, efforts should first be made to resolve the case in the context of the MEA, which is more specific; The case should be brought to the WTO only, if possibilities to find a settlement in the context of the MEA are fully exhausted.

It has also been observed, however, that some problems may arise with this approach. First, MEA dispute settlement mechanisms may be relatively weak. Experience shows that (i) parties to MEAs are not obliged to submit to a process of binding judicial resolutions; (ii) there is widespread reluctance to call on procedures for formal dispute resolution even though compliance has been incomplete; and (iii) there is no central institution mandated to consider environmental disputes even though the International Court of Justice (ICJ) had established in July 1993 a special seven member Chamber for Environmental Matters to deal with disputes that might come before it.

Secondly, it would be difficult to consider whether an MEA dispute settlement mechanisms had been exhausted. For example, the party applying a trade measure, which would often be a country with the commercial capability to do so, could consider that the dispute settlement mechanisms had not been exhausted, whereas the party affected by the measure would want to refer it to the DSB as soon as possible.

If a dispute arises between two WTO members, of which only one is a party to the MEA, the country which feels that its WTO rights and obligations are adversely affected could only bring a complaint to the WTO. It has been observed that this could imply making WTO rights a function of membership or lack thereof in other treaties addressing a different policy area, falling outside the mandate and competence of WTO bodies. It is to be noted that the judgement of environmental policy objectives fall outside the WTOs competence.

The view is sometimes expressed that the settlement of trade disputes with environmental dimensions in the WTO could be more transparent and should allow for outside inputs. The WTO Understanding of Rules and Procedures Governing the Settlement of Disputes provides for each panel to have the opportunity to seek information and technical advice from any individual or body which it deems appropriate. Panels may seek information from any relevant source and may consult experts to obtain their opinion on certain aspects of the matter. This would apply to experts in the field of environment in the event a dispute involves trade-related environmental measures. With regard to a factual issue concerning a scientific or other technical matter raised by a party to a dispute, the panel may request an advisory report in writing from an expert review group.

The focus of the proposals and thinking on this issue has however shifted from concerns on forum shopping to the evolving nature of dispute settlement panels and appellate bodies. This is exemplified by the proposals which have been tabled at the CTE following the Singapore Ministerial meeting.

Proposals in the WTO

In recent proposals and views expressed at the CTE, EC, Switzerland and Norway are of the opinion that unnecessary burden on the DSU can be avoided by a clarification of the WTO rules. They seek a legal clarity on the relationship, through Article XX between WTO rules and trade measures taken pursuant to an

MEA. They feel that this would increase predictability and decrease uncertainty. Acknowledging that MEAs are the best way of solving international environmental problems and that any trade measure they contain were negotiated and agreed in a multilateral context, they feel that such a clarification would be a guarantee against unilateral action and their use for protectionist purposes. They also feel that a consensus should be found for taking this into account in WTO rules. They also contend that the proliferation of environmental policies world-wide has resulted in the increased use of trade measures for environmental purposes. This is evidenced by a surge in the number of panels which have been raised in the WTO regarding Environment.

Proposals for the DSU review have pointed to the need for increased transparency of the panel and Appellate body process. US, JAPAN and Canada have contended among others that Amicus Curae briefs should be submitted and the process be made more transparent.

Most developing countries are of the view that the current provisions of GATT Article XX allow countries to take any legitimate trade measure. They are also of the view that Amicus Curae briefs and other such procedures would tilt the balance of rights and obligations in the WTO system. They also feel that NGO participation would unnecessarily distort the balance in favour of developed countries that could more easily fund the participation of NGO groups. They have also pointed out that NGOs from developing and developed countries do not concur on issues and therefore their participation does not add anything new to the debate. Any inclusion of their opinions and inputs should be done through national coordination. There is no need to internationalize essentially national conflicts.

There have been several suggestions from developing countries on the scope of the Appellate bodies functions. Many developing countries have expressed the view that while no consensus has been achieved in the Committee on trade and environment on the interpretation of Article XX, Appellate bodies should not interpret rules in such an evolutionary manner that it overturns the consensus. Discussions on this could be held under Item 5 of the CTE.

Implications for the ESCWA region

Amicus Curae briefs and other such procedures would tilt the balance of rights and obligations in the WTO system against the ESCWA region. This is because NGO participation may unnecessarily distort the balance in favour of developed countries that could more easily fund the participation of NGO groups. It should also be noted that NGOs from developing and developed countries do not necessarily concur on issues and therefore their participation does not add anything new to the debate, or be to the benefit of the ESCWA region. Any inclusion of their opinions and inputs should be done through national co-ordination. There is no need to internationalise essentially national conflicts

It is also to be noted that the interests of ESCWA region would be best preserved with consensus based decisions of the CTE rather than through judicial activism of Panels and Appellate bodies.

Section 3: trade related intellectual property rights

Background

MEAs addressing global environmental problems contain specific provisions on the transfer of technology by relating it to the specific environmental problem at hand, and often establish a financial mechanism to ensure that relevant technology has been transferred. However, the provisions relating to technology transfer often do not include a comprehensive notion of technology transfer. Moreover, operationalizing provisions on technology transfer has proven to be difficult. Some examples include Article 16.4 of the Convention on Biological Diversity which states that "Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of technology...for the benefit of government institutions and the private sector of developing countries and in this regard shall abide by the obligations included in paragraphs 1, 2, and 3". This is to be achieved where necessary through the financial mechanisms stated in the Convention. Comparable commitments are also contained in the United Nations Framework Convention on Climate Change. Similarly the diffusion of new technology has been deemed important by the Montreal Protocol whose Article 10 states

that the best available, environmentally safe substitutes and related technologies are expeditiously transferred to Parties operating under Paragraph 1 of Article 5; and the that such transfers occur under fair and most favourable terms.

Level of obligation

The most comprehensive obligation on technology transfer can be observed in the Convention on Biological Diversity. In the case of the CBD, developed country parties are interested not only in the conservation of biodiversity, but also in utilising the biological resources in developing countries. This has given developing countries a stronger negotiating position. However the provisions on transfer of technology in the CBD differ; it has been noted that those related to technologies which assist in the conservation and sustainable use of biological diversity (Art 16, paragraphs 1 and 2) are weaker than those referring to technologies for the use of genetic resources available in developing countries (Art 16, para. 3). Other Conventions such as the Montreal Protocol and the FCCC also have varying degrees of obligation on technology transfer. MEAs which do have provisions on technology transfer tend to relate the fulfilment of this obligation to compliance with the environmental objectives. However often the linkage may be difficult to operationalize. For example, the Montreal Protocol lays down provisions for Article 5 developing countries, to notify to the Secretariat that having taken all practicable steps it is unable to implement any or all of the obligations relating to controlled substances due to the inadequate implementation of Articles 10 and 10A relating to technology transfer. However, it is not clear as to what action the secretariat is empowered to take, as well as what the legal consequences of such notification may be.

Conditions attached to technology transfer

Several MEAs stipulate that the transfer of technology should be at "fair and most favourable conditions". What constitutes fair and most favourable terms is however not defined and has been the subject of much debate. In the FCCC, however, there is no mention of "fair and most favourable" conditions.

Relationship with the TRIPS Agreement

The TRIPs Agreement through its various provisions seeks to balance the interests of the innovator by providing monopoly profits with the interests of the user by making such technologies available. The balance however so far has been tilted in favor of the innovator where users of environmentally sound technologies are unable to access such technologies because of patents, copyrights, trademarks and other forms of protection afforded by the TRIPs agreement.

An additional problem is introduced through the conflicts that may arise between the provisions of Article 27.3b and the bio-diversity Convention. While the bio-diversity Convention asserts the sovereign right of nation states over their genetic resources, Trips provides for the patenting of biologically occurring microorganisms thus transferring this sovereign right to the patentee. Also while the bio-diversity Convention provides for mutual benefit sharing in the technologies developed through the use of the genetic diversity with the owner of the resource, the TRIPS Agreement has no such provision. Therefore it is felt by some that the provisions of TRIPs may actually harm the preservation of bio-diversity.

The CBD commits Parties to ensure that IPRs are "supportive of and do not run counter to its objectives" (Art. 16.5). However, the fact that the CBD in several of its provisions (in particular paragraph 16.3) relies on the wording "mutually agreed terms" has been characterized as a "fall-back" in the interest of developed countries.

Proposals in the WTO

Most of the proposals on these issues have been put forth by developing countries. While most proposals relate to Article 27.3 (b) of the TRIPs agreement, some proposals on transfer of technologies mandated by MEAs have also been advanced. India has proposed that owners of environmentally sound technology and products should sell such technologies and products at fair and most favourable terms and

conditions upon demand to any interested party which has an obligation to adopt these under national law or another country or under international law. Article 64, paragraph 2 must be modified so as to make it clear that subparagraphs (b) and (c) of Article XXIII of GATT shall not apply to the TRIPS Agreement. Articles 7 and 8 of the TRIPS Agreement should be operationalized by providing for transfer of technology on fair and mutually advantageous terms. Kenya has put in a similar position paper on behalf of the African group.

Regarding Article 27.3 (b) it is widely agreed by the developing countries that the TRIPS Agreement is incompatible with the Convention on Bio-Diversity. India has proposed that there is a need therefore to incorporate a provision that patents inconsistent with Article 15 of the CBD should not be granted. Venezuela has also submitted a similar proposal which states that principles of the CBD should be included in TRIPs especially Article 15 which prohibits the granting of patents to those inventions which use foreign genetic material and is therefore inconsistent with the sovereignty principle and the principle relating to access to genetic resources. Bangladesh on behalf of LDCs has also asserted that there should be a formal clarification that naturally occurring plants, animals or parts thereof (including genes and essentially biological processes) must not be granted patents. This proposal also suggests that patents should not be granted without consent of the country of origin in case of the above mentioned products. The Dominican Republic, Cuba, Honduras, Nicaragua and Egypt have submitted similar proposals. Kenya has also proposed that the ambiguity in the text of the protection of plant varieties by patents should be removed. Kenya has expressed the view that with Article 27.2 it can exclude from patentability plant varieties on the grounds that such an exception may be needed for meeting the obligations of CBD and for environmental protection. Such exclusion would be compatible with 27.3 (b). Kenya on behalf of the African Group has also suggested that a footnote be added to 27.3(b), which states that any sui-generis system can provide protection to the innovation of local communities in developing countries. This would be consistent with the provisions of CBD and the FAO Undertaking on Plant Genetic Resources. Kenya, on behalf of the African group, has also suggested that the transition period for the implementation of this Agreement be extended by another five years.

While no formal responses have so far been received on these proposals as the Review of the Article is still ongoing, so far there have been 10-15 submissions of the member states on the systems that are currently being used to grant protection to plant varieties and other innovations covered by Article 27.3. Most submissions suggest that either patents or UPOV 91 has been used by member states, from which US has concluded that only these two systems provide effective protection. However, developing countries have not yet implemented the agreement and therefore such a statement appears one-sided, as it does not include the experience of developing countries. Most commentators are of the opinion that US and other developed countries may seek to narrow the scope of the sui-generis system of protection by seeking to interpret the word effective. There may also be moves to provide for a harmonized sui-generis system along the lines of UPOV 91, which does not effectively protect land races or traditional knowledge. Such moves are currently strenuously countered by developing countries with counter proposals.

Implications for the ESCWA region

Prospective technology seekers in ESCWA countries may face serious difficulties in their commercial dealings with technology holders in developed countries. These difficulties are basically of three kinds: those which arise from the imperfections of the market for technology; those attributable to the relative lack of experience and skill of enterprises and institutions in developing countries in concluding adequate legal arrangements for the acquisition of technology; and those government practices, both legislative and administrative, in both developed and developing countries, which influence the implementation of national policies and procedures designed to encourage the flow of technology to, and its acquisition by, developing countries. These difficulties may have to be addressed specifically in order to fully implement TRIPS provisions relating to transfer and dissemination of technology, particularly in the light of Articles 7, 8, 40, 66.2 and 67. Some of these difficulties may be overcome by suitable safeguards in the domestic IPR laws of ESCWA countries, particularly those arising out of the provisions of Articles 30, 31 and 40. Since ESCWA countries have transition periods available under Article 65, these laws may still be in the formulation stage. In addition the transfer and dissemination needs of ESCWA countries have to be seen from the point of view of the capacity of those in need of accessing technologies, particularly where the cost of technology may be prohibitive due to economies of scale and other reasons. In such cases, in order to implement the related

provisions of the TRIPS Agreement, commercially viable mechanisms need to be found. This could be studied in the WTO, particularly in the light of the need for effective implementation of Articles 7,8,40,66.2 and 67.

While bio-technologies which are developed with genetic resources of ESCWA region may be covered by strict patent laws, bio-diversity and the knowledge associated with it are not protected by laws which will price this valuable resource in accordance with its opportunity cost. The impact of the development of bio-technology developed with the genetic resources of the ESCWA region will be particularly detrimental to several items of exports. For instance, crops such as medicinal and flavour/fragrance (e.g vanilla) crops are particularly at risk from the onslaught of bio-technical substitutes. Although bio-technology is being applied in only a limited way in the multi-million dollar beverage industry, confectionery, sugar, and vegetable oils, all of these applications could make primary exports from the ESCWA region non-competitive. To redress this patenting imbalance between bio-technology and bio-diversity, it is necessary to protect bio-diversity and make it a tradeable item. Alternatively, ESCWA countries should be able to benefit from the gains of bio-technology in exchange for access to their bio-diversity.

Another incentive to preserve bio-diversity can come from the regulations concerning bio-technology. The OECD national guidelines with respect to large-scale industrial applications and introductions of genetically modified organisms into agriculture and the environment seeks not merely to regulate the processes but contains notification requirements for the original seeds as well. This may imply that the original strains which are imported from developing countries will have to be notified to the regulatory authorities and may thus serve as a checklist of the forms of bio-diversity that are being exported. e.g the Seeds Act administered by Agriculture Canada ensures that imported, domestic and exported seed is safe, pure, efficacious and accurately represented to maintain identity and avoid fraud. Other countries also have similar legislations.

As of today, bio-technology is not subject to any form of regulatory action. It is speculated that it may have caused untold damage to the environment. For instance, it is likely that in the constitution of genetically modified organisms (GMOs) a number of new kinds of permutations of genes which can pose grave environmental threats will be released in the atmosphere. In several cases, it is speculated that GMOs can cause irreversible environmental damage. Hence the need for the international monitoring of bio-technology has arisen. This need for monitoring can also be extended to bio-diversity and indeed this monitoring process will also help identify the market and the trading price for bio-diversity products.

Section 4: Taxes, charges and Labelling in the context of MEAs

Taxes and charges

Background

One issue examined is the application of GATT rules on Border Tax Adjustment (BTA) to environmental taxes and charges. The potential effects of environmental taxes on trade and problems involved in the valuation for tax purposes of tradeable environmental products have also been discussed at the CTE before the Singapore Conference.

Views have been presented on the potential trade effects and general economic and environmental effectiveness of levying environmental taxes and charges on imports and rebating them on exports, depending on whether they are assigned to correcting consumption or production externalities and are levied at the national or international levels.

With regard to the treatment of environmental taxes and charges under the BTA provisions, the 1970 Report of the GATT Working Party has been taken as a point of reference and several of its findings were noted.[10] These were that the BTA provisions are based on the concept of trade neutrality and they apply the

[10] BISD 18S/97.

destination principle. Furthermore, the Working Party concluded that certain taxes not levied directly on products are ineligible for BTA. There was a convergence of views in the Working Party that taxes levied directly on products are considered eligible for tax adjustment, and a divergence of views regarding the application of BTA for *taxes occultes* (consumption taxes on capital equipment, auxiliary materials and services used in the transportation and production of other taxable goods, for example taxes on advertising, energy, machinery and transport).[11]

Proposals in the WTO

Views have been presented in the CTE on the application of BTA to environmental taxes or charges applied to non-product-related PPMs. One view is that BTA applies solely to taxes levied on products or product-related PPMs, and that taxes or charges levied on non-product-related PPMs are not eligible for BTA. Another is that GATT jurisprudence remains unclear on this point, and that certain important environmental taxes and charges might fall into the category of *taxes occultes* on which the 1970 Working Party did not reach a firm conclusion. Since the BTA provisions could influence a Member's choice of what environmental taxes and charges to apply, some feel that it is important to clarify them in certain aspects. Some suggested that environmental taxes and charges might need to be accorded different treatment under WTO rules than other fiscal measures, and cautioned against drawing premature conclusions on BTA disciplines which would make it more difficult to apply them. Some feel that the environmental policy decision to impose the internal tax or charge should be taken as given and should not influence consideration of the adequacy of WTO rules on BTA.

Reference has been made to the Agreement on Subsidies and Countervailing Measures (SCM), in particular its provisions on "Prohibited Subsidies" (Article 2 and Annex I) and its "Guidelines on Consumption of Inputs in the Production Process" (Annex II). Different views have been expressed on the likely treatment under the Agreement of a rebate for exported products of indirect environmental taxes on a non-product-related PPM in excess of the tax rebated on like products when sold for domestic consumption. One view is that energy taxes appear to be covered by Footnote 61 of the SCM Agreement. Another is that the principle of physical incorporation remains the basis upon which BTA is applied.

Views have been presented by some and questions were raised by others on methodologies to value environmental resources for the purposes of taxation, and the potential impact of different types of environmental taxes and charges on the trade of developing countries.

Implications for the ESCWA region

The competitiveness impacts of carbon taxes under the FCCC would be quite severe for the oil exporters of the ESCWA region. Several scenarios with different tax rates and their impacts on different sectors should be analysed. Apriori it would appear that carbon taxes would have the most disruptive effects on the exports of petroleum and petroleum based products. To maintain the competitiveness of the ESCWA countries, it is necessary that taxes should either be phased over a period of time, or incorporate some modifications to mitigate its effects.[12]

ECO-LABELLING

Background

Eco-labelling based on life cycle analysis of a product using the cradle to grave approach and may use criteria based on non-product related (npr) PPMs have been extensively discussed in the CTE. While eco-labelling discussions have related to npr PPMs, the issue by itself, several panels at the WTO have

[11] The Working Party noted that it appeared adjustment was not normally made for *taxes occultes* except in countries having a cascade tax.

[12] See Gaviria, D., R.Gomez., L. Ho., and A. Soto, 1994, Reconciliation of Trade and Environment Policies: The Case Study of Colombia, Report prepared for UNCTAD/UNDP project INT/92/207.

questioned i.e npr PPMs and especially its extra jurisdictional usage. Npr PPMs basically relate to PPMs which have no effect on the final product characteristics. They fall both within the scope of clarification of article XX as well as under Eco-labelling, which falls within the purview of the Technical Barriers to trade agreement. (TBT).

Proposals in the WTO

Proposals regarding eco-labelling have mostly been put forward by developed countries. Notable among the proponents on clarification of the WTO compatibility of Eco-labelling schemes are EC, Switzerland, Norway and US. EC has sought a clarification of WTO rules and npr PPMs in particular the WTO compatibility of EC eco-labelling schemes, which use the life cycle approach. EC has asked for a clear definition of non-discriminatory process rules for the creation and administration of such schemes and even proposes procedural safeguards so that such schemes are non-discriminatory, non-protectionist instruments even if they are based on life cycle approaches. Canada and the US through their transparency proposals are also seeking to achieve the same objectives though their proposals are less explicit. Switzerland has suggested that eco-labelling be included in the new Round.

While voluntary eco-labelling is accepted as a market reality by developing countries, it is usually iterated by developing countries that npr PPMs lies outside the scope of WTO rules. Notification of eco-labelling schemes does not imply that they would be consistent with WTO rules should they have significant trade effects. A parallel can be found in the field of subsidies where all notified subsidies are not necessarily non-actionable.

One interesting aspect of this issue is the labelling of GMOs. US has extensive trade in bio-technological products, whereas consumer preference in both EC and several Asian countries points to a distinct advantage for non-GMO products. In fact India was approached recently by Thailand to provide non-GMO animal feed. US on the other hand contends that WTO agreements are aimed at reducing trade restrictions in agricultural products and ensuring that all measures are transparent and do not create unnecessary obstacles to trade. Trade liberalization should ensure that producers have fair competition in the marketplace and consumers are ensured of transparent mechanisms and protection against identified health hazards. Labelling of GMOs according to them may not meet these objectives. EU on the other hand contends that recent case law shows that non-discriminatory trade measures used to achieve the level of safety desired by the importing country is fully consistent with WTO agreements. This should be confirmed at a more general level, through the use of the precautionary principle in order to assure consumers. EU also links the provision of quality food with geographical indicators where reputation for quality is based on the geographical origin and should be thus labelled. The US view on GMOs is completely contrary to its earlier stand on npr PPMs though several people contend that GMOs may actually be using product related PPMs which would allow importers to discriminate between GMOs and other like products.

Implications for the ESCWA region

Discussions on eco-labelling may result in greater WTO discipline. For some products such as food as the ESCWA countries are net food importers this may work to the benefit of their consumers. This would particularly be the case for GMO foods. It may provide an opportunity to force greater WTO discipline for purely private programmes and NGO campaigns against their exports. It may reduce pressure for unilateral measures (providing information as an alternative to an outright ban: let the consumer decide), which may be especially important within the context of measures taken pursuant to the FCCC.

However there is a strong risk of establishing precedents (social issues) and this may encourage the wider use of eco-labelling in international trade. This may make it difficult for ESCWA countries to challenge an eco-labelling measure, such as one on textiles or leather products which constitute important export items of the ESCWA region.

Even if the problems associated with eco-labelling were not at all significant, ESCWA countries have little direct benefits as:

- They do not use eco-lablelling to any significant extent
- They have little to gain from eco-labelling programmes in OECD countries (very few, if any, examples where type I eco-labels have allowed ESCWA countries to obtain price premiums, market shares or improved environmental performance).
- Pressure from NGOs in developed countries may force developed countries to seek solutions to this issue.

Section 6: the issue of DPGs

Background

This issue covers products whose sale and use are banned or severely restricted domestically on the grounds that they present a danger to human, animal, plant life or health or the environment, but which nevertheless may be exported. It is of particular concern to many developing and least-developed countries. In 1991, a GATT Working Group on Domestically Prohibited Goods and other Hazardous Substances (DPGs) produced a "draft Decision on Trade in Banned or Severely Restricted Products and Other Hazardous Substances". Consensus to adopt the decision could not be reached.[13] Taking account of the need not to duplicate or impede work done or underway in other intergovernmental fora to improve the monitoring and control of trade in DPGs, the CTE has examined what additional contribution the WTO might make in this area.

Since the examination of this issue by the GATT Working Group on DPGs, a number of new international agreements and conventions dealing, *inter alia,* with the monitoring and control of trade in certain DPGs have entered into force and others are under negotiation. Particular mention has been made in this regard of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the preparation under the Amended London Guidelines of an internationally legally-binding instrument for the application of the Prior Informed Consent (PIC) procedures for certain hazardous chemicals in international trade, the decision to develop a draft Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal, and the draft Protocol on Bio-Safety. Multilateral rules on exports of DPGs should continue to be developed primarily through environmental instruments such as these.

A draft Decision on Exports of Domestically Prohibited Goods has been submitted to the CTE for consideration.[14] It draws on elements of the 1991 draft GATT Decision on this subject, including, *inter alia,* the definition of product coverage, the obligation of exporting countries to notify other WTO Members of DPGs they export if these are not already being notified under another international instrument, and the need to ensure that measures taken for the purpose of the Decision are in conformity with WTO rules. The draft Decision includes provisions for technical assistance to be provided to Members in this area, for enquiry points to be established, and it encourages exporting Members to consider whether the measures they apply to DPGs domestically should also be applied to exports.

Proposals in the WTO

Some consider that while the WTO's role should be limited strictly in this area to supplementing the activities of other specialized international organizations, it nevertheless has within its competence an important contribution to make by helping to fill any gaps which may be left by existing mechanisms in the monitoring or control of exports of DPGs and by helping to strengthen the regimes of other international instruments whose provisions are not legally-binding or which are voluntary. Two general areas of potential gaps have been suggested: DPGs not covered by other international instruments, and DPGs exported by WTO Members which are not Parties to those other international instruments. With regard to this first area, some consider that special emphasis should be placed on exports of domestically prohibited or severely

[13] See Report by the Chairman of the Working Group on Domestically Prohibited Goods and Other Hazardous Substances, L/6872, 2 July 1991.

[14] Proposal by Nigeria, WT/CTE/W/32, 30 May 1996. See also Proposal by Nigeria, WT/CTE/W/14, 27 November 1995.

restricted consumer goods, cosmetics, foodstuffs and certain pharmaceutical products. Another view is that hazardous wastes should not be dealt with under this Item since they are already fully covered by the Basel Convention.

Some consider that much trade in DPGs is already covered by existing international instruments and that with further improvements in their operation the issue of exports of DPGs will prove to be of decreasing importance. They feel that the identification of potential gaps in coverage of DPGs, to the extent they exist, is technical work which lies outside the WTO's competence and which could be undertaken better by, or only in consultation with, other relevant international organizations such as UNEP and WHO. They have pointed to the information contained in existing notifications by Members under the TBT and SPS Agreements about technical regulations they impose on the sale or use of products on the domestic market, and they have suggested that this may provide an important source of information on DPGs and help resolve the perceived problem. They doubt there is a further contribution which the WTO could make in this area that would fall within its competence or mandate, beyond ensuring that WTO rules do not conflict with the rules of other multilateral instruments applied in this area.

Ensuring the transparency of trade in DPGs has been felt by some to be an area where the WTO could contribute, but without duplicating existing transparency and notification procedures in other relevant international instruments[15] to which priority should always be given, nor in relevant WTO Agreements such as the TBT and SPS Agreements. Some have suggested that countries exporting DPGs could be required to notify the products in question, and that they could establish enquiry points to provide, on request, information about why the domestic sale or use of the products notified has been banned or severely restricted. Another suggestion is that WTO Members may limit exchange of information in this area to regulatory actions relating to DPGs. Some emphasize the importance of ensuring that one Member's notification of a DPG in the WTO would not lead to its exports being treated differently by an importing country from exports of the same product from other countries or from domestically produced goods. Some others consider that a DPG notification programme, including prohibited but also severely restricted goods, would create a serious administrative burden and the important amount of notifications resulting from such a programme would eventually impair transparency. One suggestion is to consider to what extent an environmental data base, as examined under Item 4, could address the problem, or whether a chapter dealing with DPG regulations could be included in Trade Policy Review reports.

One issue examined was where the responsibility for taking a decision to restrict trade in DPGs should lie: with the exporting country, the importing country, or jointly between the two? Some feel that a reasonable degree of the responsibility for controlling trade should lie with the exporter, which should consider extending its domestic sales bans and restrictions to exports or engage in mandatory labelling of DPGs. However, some express concern that this could imply endorsement of a Member applying its own health or environmental standards extra-jurisdictionally. Another view is that the decision to restrict trade in a product should lie exclusively with the importing country, but that the exporting country could be asked to cooperate in ensuring the decision was implemented effectively.

Providing technical assistance to help Members improve their capacity to take informed decisions about whether or not to import DPGs and to monitor their imports of DPGs more effectively has been viewed as a potentially important part of the solution to problems in this area, particularly over the longer term. It has been noted that the customs authorities of developing countries often lack adequate product testing facilities and that the absence of product standards and regulations in these countries adds to the problem, for example by enabling products to be marketed beyond their expiry dates. It has been recalled that Chapter 19 of *Agenda 21* on "Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products" recommends, *inter alia*, that capacity-building for trade in DPGs be consolidated by assisting developing countries in developing and strengthening risk assessment capabilities in order to make informed decisions about their imports. One view is that the WTO could cooperate in this regard with other organisations, such as the Amended London

[15] A list of other relevant international instruments was compiled by the Secretariat in WT/CTE/W/29, 14 May 1996.

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Guidelines and the Basel Convention, which could provide the necessary technical expertise. Another is that technical assistance of this kind does not fall within the WTO's competence or mandate.

One suggestion has been made that compensation and liability should be considered, linked with a dispute settlement provision, without being necessarily related to notification and transparency provisions. The rationale for a compensation and liability provision within the framework of an instrument which would focus mainly on transparency and notification has been questioned by others.

Implications for the ESCWA region

Many countries of the ESCWA region are concerned about the health and environmental effects of exports to their markets of goods, where the domestic sale of such products has been prohibited or severely restricted in the exporting country (DPGs). ESCWA country importers need adequate information about the risk that such products could pose to public health and the environment. Apart from information problems, they may also lack the infrastructure (including testing facilities) and other capabilities to monitor and control imports of DPGs. The emphasis for ESCWA countries should be placed on:

- Technical assistance. This would assist these countries in strengthening their technical capacity to monitor and, where necessary, control the import of DPGs;

- While duplication is to be avoided, existing instruments, such as the prior informed consent (PIC) procedure, are insufficient from their perspective, in particular with regard to product coverage and procedures. For example, certain cosmetics and certain consumer goods which are of importance to ESCWA countries may not be subject to international notification procedures;

- Membership of several of the various international agreements and instruments of ESCWA countries may be limited, and thus there is a need to resolve it in the WTO;

- While other instruments exist, a number of them are only voluntary in nature (in other words, parties to these instruments do not have to fulfill their obligations if they decide not to), and ESCWA countries may wish to make these mandatory in the WTO;

- The definition of DPGs has to be clearly established and agreed upon. It is also necessary to discuss which of the existing DPGs should be discussed at the WTO;

- It is also necessary to examine whether the extent to which progress that has been made in other inter-governmental organizations in addressing the problems created by trade in potentially hazardous or harmful products is sufficient to deal with developing countries' concerns;

- The design and implementation of concrete mechanisms for enhancing transparency. For example, the DPG notification system that had been in existence between 1982 and 1990 should be revived (the Decisions taken to establish it remain in force today).

Conclusions and Recommendations

Some MEAs are likely to be have had or have in the future significant effects in the ESCWA region. These could include MEAs such as the Montreal Protocol and Climate change on one hand. Both these MEAs have either trade measures or are likely to have significant effects on trade. ESCWA countries may be especially vulnerable because of their dependence on oil exports. It is important therefore for them to understand the implications of proposals which seek to legitimise the use of trade measures pursuant to MEA's such as Climate change. While FCCC has no trade measures at the moment it is not inconceivable that it may use such measures to implement the provisions of the agreement. Environmental taxes on petroleum could also have severe competitiveness effects on them.

Even if no consensus were to be reached in the context of discussions in the CTE regarding the WTO compatibility of trade measures taken pursuant to MEAs, ESCWA countries could be affected by Panels and

Appellate bodies' decisions regarding this issue. It is important for these countries to formulate a common position regarding these interpretations and ensure that their concerns are fully reflected in the DSU review that is currently taking place at the WTO.

Regarding Labelling, while the bio-safety protocol and the proposals for labelling may be very important for ensuring consumer safety and providing them with information in the ESCWA region, they may also be vulnerable in their export markets. It is important to strike a balance between the concerns of their consumers and the concerns of their exporters. This balance would be especially important in cases which involve non-product related PPMs.

Regarding technology transfer, as ESCWA countries are net technology importers it is important for them to examine clearly the provisions of TRIPs, which they may wish to use for the dissemination of environmentally sound technologies. They may also wish to examine the provisions of Article 27.3 and article 27.2 in the TRIPs agreement to see what they can do to protect their immense bio-diveristy while at the same time derive economic benefits from it.

Capacity building at the national and regional level has a very important role to play in this regard. Co-operation between ESCWA countries should be addressed at two levels. One is setting up a co-ordination framework of key negotiators on trade and MEAs and the second is for co-ordination between governments, private sector and prominent NGOs in the region. Many small initiatives have already started with the governments and NGOs. It is important to build on these synergies to develop a concrete program for the region.

The proposed regional cooperation framework could have the following objectives among others:

1. supporting the effective participation of ESCWA countries in multilateral deliberations at WTO and within the framework of MEAs such as FCCC, Bio-safety, bio-diversity etc:

2. strengthening national capacities to co-ordinate trade and environment policy-making aimed at achieving the objectives of MEAs;

3. Strengthening regional co-operation on trade and environment issues as part of a process in moving towards greater economic integration in the ESCWA region, especially with respect to issues such as labelling of GMOs.

4. Strengthening co-operation and co-ordination between holders of traditional knowledge, farmers, small and medium enterprises and promote sharing of knowledge and experiences among grassroots organisations which deal with protection of land races, cultivation of hybrids and other such products.

Annex A

MTN.TNC/W/141
29 March 1994
Special Distribution

(UR-94-0085)

COMMUNICATION FROM THE CHAIRMAN

It has been agreed by the Heads of Delegations to the Trade Negotiations Committee that the following text of a Decision on Trade and Environment would be proposed for formal adoption by the Committee at its next meeting as the Decision that would be forwarded to the Ministers for adoption at Marrakesh.

Decision on Trade and Environment

Ministers, meeting on the occasion of signing the Final Act embodying the results of the Uruguay Round of Multilateral Trade Negotiations at Marrakech on 15 April 1994,

Recalling the preamble of the Agreement establishing the World Trade Organization (WTO), which states that members' "relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development,"

Noting:

- The Rio Declaration on Environment and Development, Agenda 21, and its follow-up in GATT, as reflected in the statement of the Chairman of the Council of Representatives to the CONTRACTING PARTIES at their 48th Session in December 1992, as well as the work of the Group on Environmental Measures and International Trade, the Committee on Trade and Development, and the Council of Representatives;

- The work programme envisaged in the Decision on Trade in Services and the Environment;

- The relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights,

Considering that there should not be, nor need be, any policy contradiction between upholding and safeguarding an open, non-discriminatory and equitable multilateral trading system on the one hand, and acting for the protection of the environment, and the promotion of sustainable development on the other,

Desiring to co-ordinate the policies in the field of trade and environment, and this without exceeding the competence of the multilateral trading system, which is limited to trade policies and those trade-related aspects of environmental policies which may result in significant trade effects for its members,

Decide:

- To direct the first meeting of the General Council of the WTO to establish a Committee on Trade and Environment open to all members of the WTO to report to the first biennial meeting of the Ministerial Conference after the entry into force of the WTO when the work and terms of reference of the Committee will be reviewed, in the light of recommendations of the Committee,

- That the TNC Decision of 15 December 1993 which reads, in part, as follows:

(a) To identify the relationship between trade measures and environmental measures, in order to promote sustainable development;

(b) To make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required, compatible with the open, equitable and non-discriminatory nature of the system, as regards, in particular:

- The need for rules to enhance positive interaction between trade and environmental measures, for the promotion of sustainable development, with special consideration to the needs of developing countries, in particular those of the least developed among them; and

- The avoidance of protectionist trade measures, and the adherence to effective multilateral disciplines to ensure responsiveness of the multilateral trading system to environmental objectives set forth in Agenda 21 and the Rio Declaration, in particular Principle 12; and

- Surveillance of trade measures used for environmental purposes, of trade-related aspects of environmental measures which have significant trade affects, and of effective implementation of the multilateral disciplines governing those measures;"

constitutes, along with the preambular language above, the terms of reference of the Committee on Trade and Environment,

- That, within these terms of reference, and with the aim of making international trade and environmental policies mutually supportive, the Committee will initially address the following matters, in relation to which any relevant issue may be raised:

- The relationship between the provisions of the multilateral trading system and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements;

- The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions of the multilateral trading system;

- The relationship between the provisions of the multilateral trading system and:

- Charges and taxes for environmental purposes

- Requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labelling and recycling;

- The provisions of the multilateral trading system with respect to the transparency of trade measures used for environmental purposes and environmental measures and requirements which have significant trade effects;

- The relationship between the dispute settlement mechanisms in the multilateral trading system and those found in multilateral environmental agreements;

- The effect of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and environmental benefits of removing trade restrictions and distortions;

- The issue of exports of domestically prohibited goods,

- That the Committee on Trade and Environment will consider the work programme envisaged in the Decision on Trade in Services and the Environment and the relevant

provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights as an integral part of its work, within the above terms of reference,

- That, pending the first meeting of the General Council of the WTO, the work of the Committee on Trade and Environment should be carried out by a Sub-Committee of the Preparatory Committee of the World Trade Organization (PCWTO), open to all members of the PCWTO,

- To invite the Sub-Committee of the Preparatory Committee, and the Committee on Trade and Environment when it is established, to provide input to the relevant bodies in respect of appropriate arrangements for relations with inter-governmental and non-governmental organizations referred to in Article V of the WTO.

The members of the WTO have commonly referred to these items in the work programme of the CTE as items 1 to 10.

Annex B

Criteria discussions at the CTE

Discussions on criteria in the CTE have focused on those that relate to the interpretation of Article XX and those that would provide guidance in defining MEAs. These could be useful in terms of providing guidelines to dispute settlement panels.

Necessity

It is to be noted that there is considerable difference between the treatment of "necessity" by the WTO and the environmental community. At the WTO Sub-paragraph (b) of Article XX prescribes that WTO exceptions can be provided only to measures which are "necessary" to protect human, animal or plant life or health. In the WTO it is not the MEA itself which would be put to the test, but the necessity of using WTO-inconsistent trade measures. From the environmental perspective is considerably extensive including, for example, the recognition of the precautionary principle. But it is to be noted that the precautionary approach has more to do with whether is necessary to address the environmental problem rather than whether it is necessary to use the trade or any other measure to address the problem.[16]

Proportionality

The concept of the "proportionality" of the trade restrictive effects of the measure to the need for the measure in order to ensure that the environmental objective is met has also been mentioned in relation to this term. For example, if a country using national measures is able to manage specific controlled species sustainably, then trade measures could result in unnecessary economic losses with little environmental gains.

Specificity

The chapeau to Article XX states that otherwise WTO-inconsistent trade measures can be made WTO-compatible only provided "... that such measures are not applied in a manner which would constitute ... a disguised restriction on international trade ...". This phrase may also necessitate consideration of what has been termed in discussions the "specificity" issue. This relates to how specifically an MEA defines the trade measures which would be required by the relevant provisions of the MEA and which would render effective the objectives and commitments of the MEA. In this regard, the discussions have pointed to two possible situations: (i) an MEA obliges parties to adopt trade measures in order to achieve a certain result, but does not specify exactly which trade measures; and (ii) an MEA obliges parties to take certain minimum trade action, but also allowed them to take further measures at their discretion. In both cases, there would be a significant margin of manoeuvre in which the possibility could exist of using such trade action for protectionist purposes. Particularly with respect to the second situation such further measures may be justified on environmental grounds, but in some cases the use of trade measures may be counterproductive.

Chapeau to Article XX

The chapeau to Article XX furthermore states that otherwise WTO-inconsistent trade measures can be made WTO-compatible only provided " ... that such measures are not applied in a manner, which would

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[16] Point to be discussed: some argue that it is difficult to prove that a trade measure pursuant to a MEA is "necessary". According to this view, any understanding setting out the conditions for the use of trade measures pursuant to a MEA should exclude a necessity test in the context of the WTO. In accordance with this approach, a WTO panel would in general not examine the legitimacy or necessity of trade measures under MEA, provided that a number of (procedural) conditions are met (it would be assumed that the environmental effectiveness and necessity of the trade measures have already been examined by the negotiators of the MEA in question, who presumably are in a better position to do so). Thus, if a non-party would challenge a trade measure, the panel would examine only a limited number of questions, such as whether the trade measure is taken under a qualifying MEA and whether the trade measure offends the headlines of Article XX as mentioned above. WWF, "The Relationship between the Provisions of the Multilateral Trading System and Trade Measures for Environmental Purposes, including those pursuant to Multilateral Environmental Agreements (MEAs)". WWF Legal Briefing, 2, March 1996.

constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail ...". [17]; legitimate justifications not to join may constitute differences in public policy priorities and objectives which may need to be taken into account in determining the concepts of "arbitrary" or "unjustifiable" discrimination. Further, with respect to the phrase "between countries where the same conditions prevail", it has been stated that the important factor is not whether a country is a party to an MEA, but what is relevant is the actual differences in environmental protection commitments and requirements, taking into account the differing abilities, concerns and responsibilities of countries[18].

Least trade restrictiveness

The objective of the MEA should be achieved in the least trade restrictive way possible, preferably through financial or technical assistance where necessary.

Definition of an MEA

It is important to ensure that the scope of an MEA should reflect a "genuine" multilateral consensus. In this regard, the following elements have been cited as possibly assisting in making such a determination:

(a) Objective. The environmental objective of the MEA must be the preservation of the global environment;

(b) The universal scope of MEAs. It has been considered that MEAs should be negotiated under the aegis of the United Nations or one of its specialised agencies and that the agreement should be open for participation to all countries. Participants must include countries at all stages of development;

(c) The MEA should be supported by countries that represent all interests involved in the environmental issue addressed (producer and consumer countries, geographical regions);

(d) Amendments to MEAs should be addressed separately, in terms of their scope, application, level of signatories, and trade provisions;

(e) The MEA should contain a provision establishing WTO competence for the resolution, which may arise from the application of trade measures. The WTO dispute settlement mechanism should apply normally in a second stage, when consensus in the dispute settlement within the MEA is not reached

(f) The MEA containing trade provisions should be internationally notified, in accordance with Article 27 of the Rio Declaration

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[17] Such reasons may include, inter alia, a view that the scientific evidence is not persuasive, is controversial or is lacking; an inability to afford joining an MEA or adhering to the required level of environmental standards of the MEA; a view that there are more pressing problems, environmental or otherwise, that deserve higher priority; or differences in absorption capacities of different environments.

[18] As the EC stated in TRE/W/5, "This GATT requirement is indeed fully recognized under CITES, Basel, and the Montreal Protocol which allow for trade with non-members to be carried out on the same basis as with members provided non-members apply equivalent environmental guarantees". (pg. 7).

THE IMPACT OF THE ISSUES NEGOTIATED IN THE COMMITTEE OF TRADE AND ENVIRONMENT FOR THE ESCWA MEMBER COUNTRIES: THE CASES OF EGYPT, JORDAN AND LEBANON

By Christine Rita Fakhoury

I. THE COMMITTEE FOR TRADE AND ENVIRONMENT

A. WHY THE CTE

In response to the concerns of environmentalists and green parties around the world, especially in the industrialized countries, about the environmental repercussions of a liberalized trade and the establishment of the WTO, the WTO Committee of Trade and Environment the CTE was established in 1995.

B. THE TERMS OF REFERENCE OF THE CTE

The Committee's terms of reference were defined by the decision as follows:

(a) To identify the relationship between trade measures and environmental measures, in order to promote sustainable development;

(b) To make appropriate recommendations on whether any modifications of the provisions of WTO are required, in particular:

- The need of rules to enhance positive interaction between trade and environment measures, for the promotion of sustainable development, with special consideration to the needs of developing countries, in particular those of the least developed among them; and

- The avoidance of protectionist trade measures, and the adherence to effective multilateral disciplines to ensure responsiveness of the multilateral trading system to environmental objectives set forth in Agenda 21 and the Rio Declaration, in particular Principle 12; and

- Surveillance of trade measures used for environmental purposes, of trade-related aspects of environmental measures which have significant trade affects, and of effective implementation of the multilateral disciplines governing those measures;

C. THE AGENDA OF THE CTE

Within these terms of reference the Committee addressed the following matters,

- **Item 1**: The relationship between the provisions of the multilateral trading system and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements;

- **Item 2**: The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions of the multilateral trading system;

- **Item 3**: The relationship between the provisions of the multilateral trading system:

  (a) Charges and taxes for environmental purposes;
  (b) Requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labelling and recycling;

- **Item 4**: The provisions of the multilateral trading system with respect to the transparency of trade measures used for environmental purposes and environmental measures and requirements which have significant trade effects;

- **Item 5**: The relationship between the dispute settlement mechanisms in the multilateral trading system and those found in multilateral environmental agreements;

- **Item 6**: The effect of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and environmental benefits of removing trade restrictions and distortions;

- **Item 7**: The issue of exports of domestically prohibited goods

- **Item 8**:That the Committee on Trade and Environment will consider the work programme envisaged in the Decision on Trade in Services and the Environment and the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights as an integral part of its work, within the above terms of reference,

- **Item 9**: That, pending the first meeting of the General Council of the WTO, the work of the Committee on Trade and Environment should be carried out by a Sub-Committee of the Preparatory Committee of the World Trade Organization (PCWTO), open to all members of the PCWTO,

- **Item 10**: To invite the Sub-Committee of the Preparatory Committee, and the Committee on Trade and Environment when it is established, to provide input to the relevant bodies in respect of appropriate arrangements for relations with intergovernmental and non-governmental organizations referred to in Article V of the WTO.

D. THE FINDINGS OF THE SINGAPORE REPORT

1. Item 1 and 5. Since the two items are interconnected they were grouped and studied together,

Item 1: the relationship between the provisions of the multilateral trading system and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements. And item 5: the relationship between the dispute settlement mechanisms in the multilateral trading system and those found in multilateral environmental agreements (MEAs);

The Singapore report in its conclusions and recommendations said that no agreement was reached to modify the WTO provisions in order to provide increased accommodation of trade measures for environmental purposes. In fact, many CTE negotiators believed that the WTO provisions were accommodating enough for such measures to be applied pursuant to MEAs in a WTO consistent manner. The report also encouraged governments to achieve multilateral solutions to their global and trans-boundary environmental problems.

The report stated that although trade measures pursuant to MEAs could be effective and important especially if trade was directly harming the environment, these measures might not be the only nor the most effective instrument to use in MEAs. The report suggested that MEAs apply international cooperation provisions of which financial and technical assistance, capacity building and transfer of technology.

The report concluded that conflicts among trade measures would not arise in the WTO between two parties of a MEA, while the possibility of a conflict is bigger between non-parties to a MEA. It recommended that future MEAs should give particular care in considering application to non-parties.

2. CTE Agenda Item 2. The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions of the multilateral trading system.

These measures include: environmental policies; tradable economics permits; fiscal incentives, emission taxes, and environmental subsidies. These policies and measures aim at cleaning the processes of production and at protecting the environment.

The discussion under this item mainly focused on subsidies and in particular agricultural subsidies. Subsidies can have negative effect if they cause environmental stress. In the energy and agricultural sectors, subsidies are known to cause overuse of these resources This, however, should be weighed against the positive environmental effect of environmental subsidies which could encourage clean-up activities. In the Agreement on Agriculture and the Agreement on Subsidies and Countervailing Measures exemptions are made to allow WTO members grant environmental subsidies. The CTE did not make any definite conclusion on subsidies, and proposed that further discussion on this type of trade-related environmental policies are necessary.

3. CTE Agenda item 3. The relationship between the multilateral trading system and:

a. charges and taxes for environmental purposes; and

b. requirements for environmental purposes relating to products, such as standards and technical regulations, and packaging, labelling and recycling requirements.

WTO members have been using environmental charges and taxes in order to protect nature and environment. The CTE discussions on charges and taxes for environmental purposes focused on the concern that rose in relation to WTO rules which legitimize taxes and charges on "products" but not on the "process" of imported goods. While domestic goods incur both "product" and the "process" taxes or charges. This has implications over the competitiveness of domestic production that incurs the environmental process tax or charge. The CTE realized the importance of discussing this item further to see whether there is a need to review WTO rules in order to cover environmental taxes and charges and recommended further work on this item.

Eco-labelling under item 3.b, has been the focus of much of the discussions of the CTE under item 3. Some concerns, however, have been expressed frequently by those requesting the eco-labels for their products, of which the fact that the criteria used for providing eco-labels is based on the importing country's environmental concerns without taking into consideration the specific environmental situation of the supplying countries. Moreover, how can the positive environmental qualities of imported products be reflected? It was suggested that trading partners participate in selecting criteria included in the eco-labels.

Some of the eco-labels that are being used are based on single criterion; others are based on life cycle analysis (LCA) which list environmental facts about the product from the production to the disposal stage. Eco-labels based on LCA could create trade restrictions, since it is very difficult to conduct LCA these labels are based on a few aspects of the process of production. Moreover, the use of LCA will result in the eco-label being based on non-product related process and production method (PPMs). The applicability of the TBT agreement to eco-labels based on "process" rather than on the characteristics of the product is still unclear.

The increasing use of the process-based as against product-based regulations and standards are in fact posing a big challenge to the TBT agreement. The CTE concluded that further discussion on how to treat labelling criteria based on non-product PPMs under the TBT agreement.

Handling requirements, however, are getting more popular particularly in the countries of the European Union (EU). Some countries are imposing the use of certain kinds of packaging and requiring packaging material that is either re-usable, recyclable or disposable (degradable). The CTE in this respect expressed concern about the fact that disposal and handling criteria are designed to suit the preferences of domestic industries, and that trading partners (foreign suppliers) were not involved in the selection of these criteria.

4. CTE Agenda item 4 . The provisions of the multilateral trading system with respect to the transparency of trade measures used for environmental purposes.

CTE discussions under this item recognized that proper and timely information on trade-related environmental measures (TREMs) is crucial for exporters It was concluded that no modification of WTO rules is necessary. Moreover, the Singapore report mandated that the WTO Secretariat collects all TREMs notification in a database accessible to all WTO members. The issue of transparency is of great importance to

developing countries that would prefer to avoid disputes over TREMs. Transparency on TREMs would inform suppliers about market limitations and will help exporters adjust to such limitations

5. CTE Agenda item 6. The effect of environmental measures on market access, especially in relation to developing countries in particular to the least developed among them, and the environmental benefits of removing trade restrictions.

The CTE discussed this item as its core issue since the complementarity of environmental protection and trade liberalization is central to the objectives of WTO in enhancing and achieving sustainable development. The concern of CTE in discussing this item is that some environmental measures could have negative results regarding market access for exporters in the developing countries especially small and medium enterprises. Market access was important for developing countries as it gives them the means to carry out developmental as well as environmental objectives. The CTE recognized that "improving market access opportunities and preservation of an open and non-discriminatory trading system would support these countries in their efforts to ensure sustainable management of their resources". However, the Committee emphasized the need for developing countries to implement adequate environmental policies along with trade liberalization in order to sustain growth.

As for the second part of item 6, the removal of trade restrictions and distortions were found to be beneficial for both trade and the environment. The CTE demonstrated this by preparing a background paper. The paper notes that trade liberalization is not the principal cause of environmental degradation, nor trade measures are the best instrument to solve environmental problems.

It was noted that lately and due to the contraction in international development assistance and to the unfulfilled promises made at the UNCED for financial aid and transfer of ESTs to developing countries, these countries are only left with the option of engaging in international trade to finance the cost of environmental protection in their countries. The CTE recommended further discussion of this item for the purpose of identifying win-win situation for benefiting both trade and the environment.

6. CTE Agenda item 7. Exports of Domestically Prohibited Goods (DPG)

Exports of domestically prohibited goods (DPG) is a concern of developing countries that were receiving goods which were either prohibited or restricted for environmental or health reasons. Some developing countries that were discussing this item at the CTE emphasized the fact that their countries lacked the capacity and the technical know how to monitor and control incoming DPG. The CTE encouraged WTO members to extend technical assistance and transfer of technology in this domain to developing and least developed countries.

Finally the CTE agreed that despite the fact that WTO can have a role in dealing with the DPG issue, it shouldn't duplicate the work of other multilateral fora which are entrusted with addressing DPGs.

7. CTE Agenda item 8. The relevant provisions of the Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPs)

The TRIPs agreement aims at protecting and enforcing intellectual property rights in order to promote innovations and transfer and disseminate technology to the mutual advantage of producers and users. This implies that it is difficult to transfer and disseminate environmentally sound technologies (ESTs) for the purpose of sustainable development especially needed in developing and least developed countries as recommended in paragraph 34.7 of Agenda 21.

Another issue discussed in the CTE under TRIPs is that of traditional knowledge. Under the TRIPs agreement for an innovation to be patented it has to be new and useful thus ignoring the knowledge of indigenous people because it is not new. Innovations based on this knowledge, however, are patented and indigenous people pay royalties for innovations based on their knowledge.

In addition patenting of different forms of life under article 27.3b of TRIPs has raised some ethical questions. And the compatibility between the Convention of Biodiversity (CBD) and TRIPs was questioned, since CBD represents the interests of some countries in the areas of biological resources and traditional knowledge, while TRIPs allows the patenting of new forms of life of which are genetically modified organisms (GMOs) which may have negative impact on bio-diversity especially in agriculture in as far as the extinction of some crops.

The CTE, however, recommended that further work should be caused out on the following issues: the transfer of ESTs; the protection of traditional knowledge; controlling environmental damaging technologies such as biotechnology and to consider the WTO provision consistence with some provisions of the Convention on Biological Diversity

8. CTE Agenda item 9. The work programme decision envisaged in the Decision on Trade in Services and the Environment.

Since the GATS agreement is new and includes concepts that are not contained in GATT, it was not clear whether any modification is needed to be made to Article XIV.b of GATS in order to meet the objectives of the protection of human, animal and plant life or health.

9. CTE Agenda item 10. Input to the relevant bodies in respect of appropriate arrangements for relations with intergovernmental and non-governmental organizations (NGOs).

Recognizing the rising public interest in the activities of the WTO on trade and environment, the CTE concluded broadly that it would be appropriate to allow NGOs to participate directly as observes in the proceedings of the CTE. But their primary responsibility for establishing relations with NGOs lies at the national level.

Moreover, the CTE has extended observer status to these intergovernmental organizations that had requested the status of which two secretariats of relevant MEAs. Among the Intergovernmental organizations meeting as observers at CTE were the United Nations Conference on Trade and Development (UNCTAD), the United Nations Environment Programme (UNEP), the World Bank, the secretariat of the Convention on International Trade in Endangered Species. (CITES) and the secretariat of the Convention on Biological Diversity (CBD).

In sum the Report reveals that the conclusions were mainly to the effect that no modifications to the provisions of the WTO agreement was necessary and the recommendations were mainly that the some items needed further discussion and consideration. The only non-passive recommendation was that the TRIPs agreement was to be reviewed to check its consistency with the provisions of the Convention on Biological Diversity.

However, it should be concluded that the most important items that were the subject of heated debates at the CTE meetings were: the relationship between MEAs and the provisions of the WTO agreement; market access, eco-labelling, and the TRIPs agreement.

II. THE CONCERNS OF DEVELOPING COUNTRIES OF WHICH ESCWA MEMBER COUNTRIES

The issues negotiated in the CTE raise some concerns for developing countries among which ESCWA member countries. Different WTO provisions contain environmental clauses that allow countries to take trade measures and policies for environmental purposes provided that these measures and policies are non-discriminatory and do not create trade distraction. Developing countries have to adjust and prepare themselves in order to export according to the environmental specifications of their trading partners. However, there are some environmental criteria and policies that are stringent and could pose serious damage to international trade especially to those countries that do not have the means to change their line of production and technologies to meet environmental preferences of their trading partners.

A. Trade Measures for Environmental Purposes

In fact, trade measures applied against developing countries for environmental purposes do not help developing countries become cleaner, they will only make them poorer and in shortage of foreign currency which will hinder their ability to buy capital goods that are essential for growth. Instead, extending technical and financial assistance for environmental purposes would serve the purpose of both the proponents of environmental protection and developing countries at the same time thus yielding a win-win situation. It is worth mentioning that a big step in the right direction has been achieved already, developing countries whivh earlier could not see the connection between trade and environment, have now realized the importance of this connection and have participated in the discussions of the CTE in a pragmatic manner.

B. Environmental Requirements, Regulations and Eco-Labelling

Developing countries could be exposed to the possibility of green protectionism which is made possible by the compulsory environmental regulations and voluntary eco-labelling schemes that are becoming increasingly popular especially in the EU. In fact, stringent environmental regulations, standards, and requirements for the protection of human, plant and animal health and life are allowed under the TBT and SPS agreements. Developing countries, therefore, while legitimately opposing signs of green protectionism should try and meet standards and requirements of their trading partners.

In the industrialized countries especially in Europe, there is a considerable public support for the environment, and green parties participate in policy making which explains the "flurry" of legislation in these countries especially in the EU. And developing countries are skeptical about this legislation which they believe might have been formulated to the advantage of European industries and to limit accessibly to the European market.

One of the sources of skepticism of developing countries is the handling regulations and requirements that are becoming increasingly popular. Packaging regulations and requirements in some industrialized countries are forcing exporters to change their packaging material and to go through the trouble of providing different packaging for different export markets. Exporters are becoming increasingly responsible for the disposal of packaging as recyclable and reusable packaging is becoming a necessity.

It is worth mentioning that packaging and other environmental regulations do not usually pose a big problem to large enterprises that usually have no problem in complying. Such regulations, however, cause many problems for small and medium enterprises in the developing countries.

Several kinds of eco-labelling schemes have been put to use in the developed countries. so far they have been voluntary and covering different criteria. Eco-labelling is allowed under the TBT agreement, however there is a controversy on whether eco-labelling based on Lifecycle Analysis (LCA) which includes non-product-related production and process methods (PPMs) are covered under the TBT agreement.

Eco-labels based on LCA, and on non-product-related PPMs could have an effect on international trade. However, sine these eco-labels are voluntary they do not pose a problem under WTO. However, during the CTE negotiations some developed countries regarded eco-labels that included non-product-related PPMs as covered under the TBT agreement insinuating that such schemes could be made compulsory by governments. This discussion was opposed by developing countries that stressed that the TBT agreement does not cover such labelling. Developing countries are concerned that voluntary eco-labelling schemes covering (LCA) and non-product-related PPMs will spread to an extent that it will result in market segmentation. Consumers in developed countries will increasingly base their choices on these labels, and since these labels base their requirements on environmental, social, and cultural facts that reflect the standards of developed countries, consequently products from developing countries specially those produced by small and medium enterprises would not be able to comply.

ESCWA countries so far have not developed their own eco-labelling schemes; some countries do not have the institutions to award the required labels for their exports to the industrialized country. If a company in

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B. Environmental Requirements, Regulations and Eco-Labelling

Consequently, developing countries have come to believe that they have little power in setting their own environmental policies. In many ways these policies are imposed on them. They also do not subscribe to the idea that environmental standards should be uniformed and they are skeptical about harmonization which might reduce their competitiveness. These concerns should be discussed further at the CTE and should be reflected in any developing country's strategy on trade and environment.

At the center of the issue of extra-territorial intervention or encroachment on sovereignty is the issue of genetically modified organisms or GMO. GMOs could be health hazard and may have an adverse impact on biodiversity. The WTO provisions so far treat GMOs as any other product, in fact, it protects such products under the TRIPs agreement. There are countries that prohibits the importation of GMOs, but these countries are challenged through the WTO. The WTO may want to consider this matter and revise the TRIPs agreement in order to avoid what might be seen as yet another encroachment on sovereignty by some countries.

D. Market Access

One major concern for developing countries is market access in a world were competition is growing and competitiveness is hard to achieve especially on environmental grounds. Developing countries and ESCWA member countries are concerned with securing market access as well as finding new markets for their exports.

The erosion of preferential treatment coupled with trade restriction through environmental measures or trade measures could be devastating to the economies of developing and least developed countries. This will make it difficult to identify win-win opportunities which are associated with the removal of trade restrictions and distortions that can result in economic and environmental gains.

Moreover, eco-labelling schemes that are based on different criteria could be threatening market access for developing countries. Those eco-labels based on PPMs are even more threatening especially that they are complex and need some clarifications on the definitions of international standards and equivalency.

the ESCWA member countries needs to have the "green-dot" label, it will not find the institution that could award it this label and so the company will resort to a foreign institution that could give these labels.

ESCWA countries have just introduced the ISO 14000 standards certificate. This is about the closest that ESCWA countries came to eco-labelling. To start with ISO 14000 standards is only a few years old, however, it is even more recent in the ESCWA members countries and only a few companies have acquired the certificate.

Attaining ISO 14000 is a costly process, many businesses in the ESCWA member countries especially small and medium enterprises that are interested in getting the ISO 14000 certificate are not able to meet the costs. It is to be noted that in some of the ESCWA member countries there are few institutions that extend financial assistance for businesses that are ready to obtain the ISO 14000 certificate. Even with such financial assistance, obtaining ISO 14000 is still costly and hence not many entrepreneurs are tempted to obtain it especially that these businesses do not see the profitability of obtaining such a certificate.

C. Unilateralism and Encroachment on Sovereignty

Unilateral trade measures have been applied mainly by the United States and the European Union. Unilateral measures on environmental goods can only be applied and be effective by trade giants whose imports are significant to an extent it could influence actions. Developing countries have been subjected to such measures.

Developing countries are wary of these unilateral measures taken for environmental purposes which are not product related nor a result of a multilateral trade agreements. Another concern of developing countries is the fact that the industrialized countries by taking measures for non-product related PPMs are interfering in extra-territorial activities in the name of environmental protection. The question to be asked here is how much governments can exercise their sovereign right to exploit their natural resources. Do the industrialized countries have the right to take measures or activate consumers to boycott a certain product because it is causing an environmental harm in the developing countries which is not their own.

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E. Domestically Prohibited Goods (DPGs)

This is an important concern of developing countries which are the recipients of products whose sale is restricted or prohibited in the exporting country. Some ESCWA member countries have been subject to such products, at many instances consumers in those countries bought food on pharmaceuticals that were outdated, or bought drugs that were prohibited or restricted in the exporting country.

TRIPS and the Environment

Developing countries among which the ESCWA member countries are also concerned with the patenting of innovation which makes the diffusion of environmentally sound technologies (ESTs) costly and difficult to be obtained

Adding to this that protecting plant and animal variety may have an adverse effect on biodiversity especially that land races are not protected. If genetically modified variety came to predominate, many of the natural strains might become extinct thus promoting a serious impact on biodiversity. It is worth mentioning that one concern of developing countries is related to the Monsonto's Terminators technology which is a gene that has been engineered to make a plant sterile, thus allowing farmers to use the seeds once without being able to save seeds for the following year. This has a serious impact on farming in the developing countries where saved seeds account for 80 percent of sown crops.

III. THE CASES OF EGYPT, JORDAN AND LEBANON

A. Egypt

Egypt is one of the five ESCWA member countries that are WTO members and perhaps it is the most aware, among these countries, of the issues of trade and environment especially those negotiated at the CTE. Egypt has been an active negotiator at the CTE meetings and has participated in the discussions that led to the completion and the submission of the Singapore Report.

Trade and Environment in Egypt

When compared to other ESCWA countries, Egypt is also the most prepared to negotiate and discuss the issues under trade and the environment. At the Ministry of Foreign Affairs a CTE negotiator has had a considerable experience in negotiating these issues. The Ministry of Economy and Trade has few officers working on the issues of trade and environment, and has prepared the negotiation position of Egypt concerning trade and the environment. Most importantly, in 1995 the Egyptian government established a subcommittee on trade and environment as a part of the Permanent Follow-up Committee for the Uruguay Round Results. The Egyptian Subcommittee on Trade and Environment is headed by the Director of the Egyptian Environmental Affairs Agency (EEAA). It includes members from the International Trade Sector, Egyptian Export Promotion Center, ministry of foreign affairs, ministry of industry, ministry of agriculture, ministry of planning, Egyptian Organization for Standardization and Quality Control (EOS), Egyptian Businessmen Association, ministry of oil, General Union for Chambers of Commerce, and the General Union of Egyptian Industries.

Despite Egypt's participation in the CTE negotiations and the establishment of the Subcommittee on trade and environment, there is still room for more people to work under this topic. Egypt's trade position requires more trained personnel on trade and environment issues from both the public and the private sectors. The need for trained people stems from the need to inform enterprises, especially small and medium enterprises, about the important trade and environment issues .

The Implications of CTE Issues on Trade in Egypt

Egypt's first trading partner is Western Europe, followed by the Asian countries, the Arab countries and North America. Since the European countries practice the most stringent environmental regulations and apply

strict standards and have quite a number of voluntary eco-labelling schemes, it makes Egypt's exports vulnerable to their environmental policies and measures. Consequently, Egypt has to take all necessary steps to match the European standards. This same analysis applies to Egypt's exports to the USA. From this, one can understand why Egypt might face problems concerning its exports and why it might resist the mainstreaming of environment in the WTO agreements. Egypt realizes the importance of clean production but it is not ready to accept the addition of the environment as a subject for negotiations at the Millenium Round unless the industrialized countries fulfill their part of the agreements by extending financial and technical assistance for the developing countries to enable them turn their line of production green.

Western Europe's imports from Egypt include textiles and agricultural products, which are highly sensitive to environmental standards and regulations. In cotton and textile production, there are many environmental concerns that might influence consumer preferences. Concerns about textiles could start from the raw material stage to the packaging stage. Questions such as to what extent where pesticides and insecticides used in the cultivation of raw material? What type of dye was used in the coloring process? How much water was used and wasted? What kind of bleach was used? And what packaging was used when the product was exported? Some eco-labelling schemes include all these facts and others go as far as reporting under what conditions the labor were working to produce the product and of what age group where they. Eco-labels for garments could pose problems for Egyptian exporters and cotton farmers. Some new labels are now requiring the indication of a variety of non-product related process and production methods (PPMs) such as the amount of water used in producing, coloring and bleaching the products.

Consumers in the industrialized countries are becoming more and more sensitive to these details which shape their consumption preferences. Egypt should disseminate awareness about these measures and instruments and should try and relay these requirements to its producers especially small and medium enterprises.

Under agricultural products, many requirements and standards have to be met also. The level of pesticides, insecticides and fertilizers used should meet those requested by trading partners. The exports of potatoes to Europe have faced some problems concerning the Brown Rot disease. Potatoes exported from Egypt that had this disease were turned down

In sum, Egypt has to save its position as an exporter; it has to use all possible means to eliminate barriers to trade. This coupled with the lack of financial and technical assistance from the developed countries explains Egypt's unfavorable position towards mainstreaming the environment in the WTO agreements for fear that this could impose some additional barriers to trade.

Conclusions and Recommendations

Notwithstanding the legitimate position of Egypt in relation to mainstreaming the environment in the WTO agreements, it still has to work towards more awareness about the issues of trade and environment in both the public and the private sectors.

Despite the fact that Egypt is right to claim financial and technical assistance that were promised at several multilateral agreements for developing countries, It still has to have a sort of a strategy or a programme that reflects its willingness and its inclination towards cleaning the production and the handling processes of its exports.

The issues that have been discussed at the CTE should be taken seriously. Egypt could devise a multidisciplinary programme that includes officers from all concerned sectors private and public, in order to advise, raise awareness and, if possible, extend technical assistance to those enterprises whose livelihood depends on exporting their products and on complying with trading partners' conditions. This raises the need to train more human resources on the issues involved under trade and environment.

This suggested trade and environment programme could be institutionalized in a section or a unit, probably hosted at the Egyptian Environmental Affairs Agency (EAA,) because finally trade and environment issues will boil down to environmental technicalities. However, this unit should incorporate personnel from the

Egyptian Standards Organization, the ministries of agriculture, industry and economy and trade, and Egyptian Environment Affairs Agency (EEAA). The programme has to be clear; information oriented and has to have an educational aspect. It should include training and provision of technical assistance and capacity building. This programme could raise resources from the different institutions, private and public, that deal with export promotion. When such a programme is institutionalized, the industrialized countries will feel the seriousness of Egypt in achieving sustainable development and that it is not just opposing the inclusion of environment and calling on developed countries to extend assistance. Egypt, therefore, needs to prepare a blue print of what it intends to do in the area of trade and environment thus encouraging developed countries to extend technical and financial assistance.

In the lack of such a programme, and since sustainable development depends upon a dialogue between the trade and environment communities, the ministry of economy and trade and the ministry of environment should cooperate at the national level to discuss issues and make informed decisions that would take into consideration the livelihood of the exporters while at the same time minimizing environmental damage. Small and medium enterprises, in particular, have to be trained, educated and offered assistance on issues relating to trade and environment.

Egypt should initiate an eco-labelling scheme based on international standards. ISO 14022 Once Egypt has its local eco-labelling scheme it becomes easier to approve it internationally, and thus facilitating the process of eco-labelling for the Egyptian exporters.

Egypt should request that the notification system at the WTO be revised as most notifications are either vague or difficult to understand and some are not precise. In addition, not all WTO member countries are respecting their obligation of sending notifications under the TBT and SPS agreements.

Egypt should continue participating in the CTE discussions. It should be present and active in all multilateral trade and environmental fora in order to participate in making decisions that reflect the well being of its producers and exporters.

Egypt should intensify efforts to press on the industrialized countries to fulfill their part of positive "implementation" which entails granting financial and technical assistance, providing capacity building and disseminating environmentally sound technology at favorable terms.

B. JORDAN

Currently Jordan is at an advanced stage of WTO accession procedures. It is expected that within the few coming months the parliament will approve the new legal environment, thus rendering Jordan ready to become a WTO member. Jordan has also ended the final stages of negotiation with the EU to start a free trade agreement. All these steps are taken in order to open new markets for Jordanian products and to expand exports and help the economy achieve higher rates of growth. I

The Environment in Jordan

In the 1990s the Jordanian Government promulgated Law no. 12 of 1995 as the Environmental Protection law and created the General Corporation for environmental Protection (GCEP) under the Ministry of Municipalities, Rural Affairs and the Environment. The Corporation is currently formulating The National Agenda 21 for Jordan with the assistance of a UNDP programme namely :"Capacity 21". This is about the closest activity related to sustainable development and hence to trade and environment that the Corporation has carried out.

In as far as environment is concerned there is some assistance being extended by some industrialized countries and International Organizations of which the German Agency for Technical Cooperation (GTZ), and CIDA, the Canadian International Development Agency. They are carrying out projects that aim at environmental management, public awareness, and capacity building for the enforcement of the environmental law. The European Union and the World Bank also have some environmental activities in Jordan

Trade and Environment in Jordan

Issues of trade and environment especially those discussed at the CTE and their possible risks and opportunities for Jordan are not yet on the agenda of decision-makers in both the GCEP and the Ministry of Industry and Trade (MIT). In general, some knowledge of these issues has just started among a few officers especially those who were close to the WTO preparatory committees and have participated in the accession procedures. Moreover, public officers in MIT and GCEP's knowledge of trade and environment issues is scattered and not entirely comprehended.

The Institution for Standards and Metrology, which is going to be the Enquiry Point once Jordan becomes a WTO member, has a couple of officers who are knowledgeable of the TBT and the SPS agreements and about environmental barriers to trade. The Amman Chamber of Industry has officers that are exposed to some of the issues of eco-labelling especially ISO 14000. They are intending to hold seminars on other types of eco-labelling. JEDCO is also concerned with ISO 14000, and has started a course on packaging. There are only three companies that have obtained the ISO 14000 in Jordan and about 33 on the way. From this we conclude that activities related to trade and environment in Jordan are mainly focused on obtaining the ISO 14000 certificates. There is very little awareness about the risks and opportunities that trade and environment issues can create.

Moreover, the Multilateral Fund of Montreal Protocol has assisted some Jordanian companies change their production line by using cleaner technology that reduced the emission of CFCs or use the environmentally friendly CFCs. Companies producing aerosols, air conditions, refrigerators, polyurethane foams and the petrol refineries benefited from this assistance and have changed their production technology.

Packaging in Jordan is still traditional; there is not much awareness to the demands that are rising in the industrialized countries concerning packaging. Very few companies use biodegradable plastic and recyclable packaging. This could be due to the fact that most Jordanian exports are directed to the Arab countries and Asia, two regions where packaging and handling requirements are not as strict as those found in the EU or the US.

Implications of CTE Issues on Trade in Jordan

Jordan's first exported item is food and live animals followed by phosphates, Potash, pharmaceuticals and fertilizers Jordan's first trading partners are the Arab countries followed by Asian countries then the European Union.

The second exported item is phosphates and the fourth is fertilizers of which phosphates-based fertilizers. Although most of the phosphates and fertilizers are exported to the Asian market, it is expected that after the signing of the Euro-Mediterranean Partnership Agreement between Jordan and the EU the exports of these commodities to the EU will expand. It is also to be noted that after joining the WTO, market access for phosphates and phosphates-based fertilizers will be linked to these products' compliance with environmental and health standards.

However, phosphates mined from one of the biggest three nines namely: Shidiya is known to have higher cadmium content than the limits set by the EU. The removal of cadmium from phosphoric acid would be a beneficial strategy for Jordan.

There are risks and opportunities to the mainstreaming of the environment in trade. One opportunity for Jordan is to work on enhancing the environmental side of the production of phosphates and phosphates-based fertilizers that might become, once cleared from cadmium, a success story whose exports could generate for the kingdom the much needed foreign currency to help it achieve other economic goals.

Conclusions and Recommendations

Environmental and health concerns in other countries especially the US and the EU could have an effect on the exports of Jordan. The Jordanian government on the verge of becoming a WTO member should look for

means to find new markets and bolster its position in existing market by giving, trade and environment serious attention.

The impact of issues negotiated at the CTE could affect Jordanian exports by limiting market access for environmental reasons. It could also affect the development of clean production which depends on the availability of clean technology. Jordan should work towards promoting clean technology while at the same time trying to obtain environmentally sound technologies through grants or through comfortable loans.

There is also lack of awareness about the issues of trade and environment especially those negotiated at the CTE. Consequently, there is a need to enhance this awareness. Private and public trade-promoting institutions should work towards capacity building. Staff from both sectors should be trained on the inter-related issues of trade and environment in order for further dissemination of information by conducting lectures and seminars for Jordanian exporters especially small and medium enterprises on the risks and opportunities of trade and environment.

Cooperation between the Ministry of Industry and Trade and the General Corporation for Environmental Protection to institutionalize trade and environment is essential. By establishing a section which will be responsible for an educational, information-oriented programme that could also extend technical assistance. Such a programme could be financed by private and public sectors working on trade, as well as through funds extended by international organizations. UNCTAD could assist by providing training to personnel of such a section.

A national programme on the environmental aspects of producing and exporting Phosphates and Phosphates-based fertilizers should be devised. The programme would follow up on environmental standards required by trading partners and control the environmental quality of these products. It could also devise a strategy to enhance environmental management of the industry. Such a programme could also be devised for other important exports.

When such programmes are enacted it will become easier to draft a blueprint for a national environmental action towards cleaner production. This could be submitted to international environmental organizations and to industrialized countries to show seriousness about cleaning production and hence encouraging their technical and financial assistance to implement such a blue print.

When Jordan becomes a member in the WTO it should attend CTE discussions meetings. At first it would be a learning experience, but later Jordan could become involved in discussions in order to participate in decision making which could reflect the well-being of its exporters.

Only three companies have obtained the ISO 14000 in Jordan. More efforts towards promoting the advantages of having such certificates should be made. In addition, Jordan should start working towards having its own local eco-labelling scheme. It could start by doing the preliminary work and could seek the expertise of the International Standards Organization (ISO in this area.

C. LEBANON

The Lebanese government that has a tradition of an open trade policy has also taken steps towards further liberalization of trade. It has signed the Arab Free Trade Agreement (AFTA) and three free trade agreements with Syria, Egypt and Kuwait. Currently it is at the last stages of negotiating the Euro-Mediterranean Partnership Agreement with the EU. And most importantly, Lebanon was given the observer status at the WTO in April 1999 and now the Ministry of Economy and Trade is making preparations for proceeding with the protocol of accession. All these development reflect Lebanon's belief that promoting exports is essential for the economy and a pre-requisite for economic growth.

The Environment in Lebanon

The environment has been institutionalized recently in Lebanon when in 1993 the Ministry of Environment was established. The Ministry is active in the development of protected areas, implementing

activities under the Ozone and the Bio-diversity projects in addition to a few publications on various environmental issues. Moreover, there are a few activities taking place at the Ministry of Environment with the support of international organizations such as UNEP, UNDP and some NGOs such as the German Agency for Technical Cooperation (GTZ) and the Sustainable Business Associates (SBA) of Switzerland. The Ministry is also a partner to the Capacity 21 initiative in Lebanon, which carried out a number of environmental activities.

There is no environmental law in Lebanon yet, but an environmental code has been drafted and still awaits the approval of the Parliament. Moreover, there are no environmental standards in Lebanon. LIBNOR, the Lebanese institution responsible for setting standards has been revitalized recently and is in the process of setting standards

Trade and Environment in Lebanon

Lebanon was given the green light to go ahead with preparation for the WTO accession only on the 14th of April 1999. Hence Lebanon has not been close to the negotiations of the CTE and the issues of trade and environment are still new to the Ministry of Economy and Trade

Generally, there is lack of awareness about the issues of trade and the environment at the Ministry of Economy and Trade. At the Ministry of Environment the situation is better merely because the UNDP-Capacity 21 initiative has been collaborating with the Ministry on issues that are related to trade and environment. Lebanon was chosen as the task manager of the Mediterranean Commission for Sustainable Development (MCSD) theme of Free Trade and Environment. The Ministry of Environment and Capacity 21 have collaborated in implementing some activities under this theme. This could be considered the closest activity that has been done under trade and environment in Lebanon.

At the private sector level awareness about trade and environment depends on the destination of the firm's exports, and on the size of the firm. There are many big firms that are cognizant of some trade and environment issues especially those that export to the EU and the US. Small and medium enterprises are not aware of these issues they mainly export to the ESCWA member countries where environmental regulations are relatively lax.

It is to be mentioned that some activities in line with trade and environment issues have also taken place in Lebanon through the Ozone Project. A number of firms benefited from the Multilateral Fund of Montreal Protocol that extended financial assistance for these firms to use alternatives gases to those harming the Ozone layer.

Textiles and textiles articles exports amounted to the highest average revenue for the period 1995-1998. Followed by Pearls Precious stones and precious metals then base metals followed by vegetable products and food industry for the same period

Implications of the CTE Issues on Trade in Lebanon

Lebanon's first trading partner is the EU followed by Saudi Arabia, the United Arab Emirates (UAE) and Syria for the period 1995-1998. Europe's imports from Lebanon include food items and textiles articles that are subject to stringent environment and health restriction.

The EU is an important trading partner. Lebanon should seek to expand the volume of its exports to Europe. In order to do that, Lebanon has to comply more with the European standards. In the textiles' articles exports, Lebanese exporters should take into consideration all the specifications that are required by textiles and clothing, they should also package products by using recyclable or reusable packaging. As for food-products such as canned and conserved food, the same analysis applies in order to keep the European market. When the cost of green production becomes a burden on the producers the situation should be weighed against the fact that the cleaning cost could increase market access and could be more rewarding in the long run.

However, industries that need assistance in order to clean their production process could seek assistance through environmental projects that are being run in Lebanon and are supported by international organizations. Lebanon does not export heavy industry products whose process of production might need the attainment of expensive environmentally sound technologies. Consequently provision of environmental assistance should not be very difficult.

As discussed above, the food industry has a promising export market because of many reasons of which the reputation of the Lebanese cuisine. Lebanon should attempt to expand its exports by preparing a blue print to help this industry meet strict environmental and health standards and consequently to further expand the exports of this industry.

It follows that there could be niche markets for Lebanese food products that are environmentally sound all through their life cycle. Lebanese producers should plan a strategy to capture this opportunity which is presented through consumers' preference for clean production. Therefore, producers should enhance their method of production, by applying clean processes and aiming at the best quality in order to create a comparative advantage in clean food industry.

Moreover, Lebanese producers should pay more attention to the handling side of their production. Recyclable, reusable and degradable packaging should be used across the board and not only for exports directed to developed countries. As countries become more concerned with the protection of the environment, traditional packaging will become increasingly unacceptable.

Conclusions and Recommendations

Lebanon is working hard to expand exports and has taken steps towards engaging in international trade. Issues of trade and environment are not yet seriously considered both at the Ministry of Economy and Trade, and the Ministry of the Environment. There is also lack of cooperation between the two ministries. Consequently, there is lack of awareness to the risks and opportunities that are implicated by mainstreaming the environment in international trade issues. Lebanon is in dire need to expand exports and hence to seek all opportunities to find new markets and maintain existing ones. Lebanon is therefore recommended:

(a) To strengthen cooperation between the Ministry of Economy and Trade and the Ministry of Environment to have a liaison unit in each ministry in order to extend services related to trade and environment.

(b) To have LIBNOR expedite its standard setting by seeking assistance from ISO. LIBNOR could become the Enquiry Point of Lebanon once Lebanon becomes a member of the WTO. Capacity building is necessary in this respect.

(c) To raise awareness on the inter-related issues of trade and environment, and build the capacity of officers and personnel in all related public and private institutions. Chambers of Commerce could hold seminars to train exporters and raise their awareness to these issues.

(d) The Institute of Scientific Research with the collaboration of the Ministry of Economy and Trade and the Ministry of Environment could help by drawing a clean-production programme for strategic industries and could extend technical assistance for them to clean up their production methods and processes.

(e) To encourage more Lebanese firms to obtain the ISO 14000 certification.

(f) To seek the assistance of international organizations to help improve aspects related to trade and environment. ISO could assist LIBNOR on standards setting. UNCTAD could help train public and private sector officers and personnel on instrumental methods to enhance exports. UNEP and UNDP could extend capacity building and could finance more environmental projects.

FREE TRADE AND THE ENVIRONMENT IN THE FRAMEWORK OF THE EURO-MEDITERRANEAN PARTNERSHIP

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The Euro-Mediterranean Partnership Context

Considering the strong and historical relations between Mediterranean countries, and considering the increasing weight the European Union will have in the region, the Euro-Mediterranean Partnership is the main context in which the relationship between trade and environment will be debated for countries of the northern and southern Mediterranean, even if trade relations between both groups of countries encompass a wider geographical area.

The debate on trade and environment constitutes a new dimension in relations between countries of the Mediterranean. Previously, trade was, and still is, the main concern of bilateral relations, which is manifest through a series of association agreements that have been in place since the early 1960s. Environmental issues, mainly related to the protection of the Mediterranean Sea, were tackled in the framework of the Mediterranean Action Plan and the Barcelona Convention and its related protocols.

Since 1975, Mediterranean countries, together with the European Commission, have decided first to cooperate on the protection of the Sea, then on the development and protection of Coastal Regions, and finally on the preparation of a sustainable development strategy for the Mediterranean region.

Within the framework of the Mediterranean Action Plan, riparian countries have prepared and signed several legally binding instruments that were reviewed in 1995 to give more consideration to development and environment interactions. Even though there are no explicit references to trade measures in those legal documents, there are obvious implications through the links established between the Mediterranean Action Plan (MAP), the Mediterranean Commission for Sustainable Development (MCSD), and the Barcelona Convention, which stipulates:

"The Contracting parties pledge themselves to take appropriate measures to implement the Mediterranean Action Plan and, further, to pursue the protection of the marine environment and the natural resources of the Mediterranean Area as an integral part of the development process,.... For the purpose of implementing the objectives of sustainable development, the Contracting Parties shall take fully into account the recommendations of the MCSD...."

Basic environmental principles of interest to trade measures are also being introduced in the new Convention, namely the precautionary principle, the polluter-pays principle, the use of environmental impact assessments, etc. The new Convention is expected to enter into force in 2000.

In 1989, a series of trends and alternative scenarios on the future of the Mediterranean region were prepared with the legal framework and related activities. Together they provided the basic background for launching the Mediterranean Environmental Technical Assistance Program (METAP) and several European initiatives, including the Euro-Mediterranean Partnership.

Just after the Rio Summit in 1992, the Mediterranean partners prepared MED21, an Agenda 21 for the Mediterranean. This initiative resulted in the creation of the Mediterranean Commission on Sustainable Development (MCSD), which is expected to provide the Contracting Parties of MAP strategic, practical and operational recommendations in order to support the building up of sustainable development in the region.

[1] Even though based on work carried out in the framework of the Mediterranean Commission on Sustainable Development and the Mediterranean Action Plan, the opinions expressed in this paper are those of the author and do not engage the United Nations Environment Programme or the Mediterranean Action Plan.

To that end, the MCSD involves as full members representatives of non-governmental organizations (NGOs), local authorities, and socio-economic actors on equal footing with country representatives, which is, until now, a unique case in the world.

Among its first set of priorities, the MCSD has included the topic of "Free Trade and Environment in the Euro-Mediterranean Contexts." Analytical related work is being carried out by a thematic working group under the coordination of Lebanon, to be joined soon by France, and with the support of MAP and concerned Regional Activity Centers. A first set of recommendations and proposals for action, to be then adopted by the Contracting parties, are expected for September 2001.

One of the major expected effects of the Euro-Mediterranean Partnership is the creation of an "area of joint prosperity." It is thus the main foreseeable structural process in the relationship between free trade and the environment for most of the riparian countries around the Mediterranean. At present, the partnership concerns the European Union and twelve eastern and southern Mediterranean countries. Partnership agreements have already been signed with five out of these twelve countries, although they include with limited interest, if any, to environmental concerns.

These agreements, which parallel national and regional programs under MEDA (Mesures d'accompagnement), lead to the gradual set-up of a Euro-Mediterranean free trade zone in 2010. The Euro-Mediterranean initiative does not represent a break with the past, but rather a deepening of previous efforts with some new concerns. These include renewed emphasis on a multilateral framework for the region; more comprehensive coverage of issues, including social and environmental areas; and financial assistance originating from a "common pot" of financial assistance, which will go beyond project financing to support broader macro-economic and structural reform. However, as in most global and regional trade agreements, environment is far from being a priority.

Currently, the work undertaken within the framework of the Mediterranean Action Plan and the MCSD is being looked at with a lot of interest by the European Union and most of the Regional Seas programs around the world. But obviously, we are still at the stage of improving knowledge and deepening analysis before elaborating practical and useful recommendations. This work is accordingly being pursued by working group established by MCSD for this purpose.

The work program of the MCSD working group on "Free Trade and the Environment" currently underway focuses on the following issues:

(a) Design a framework of activities leading to a better understanding of the major issues and problems related to the development of free-trade initiatives and their relevance to the Mediterranean context;

(b) Specify commercial opportunities of certain products in the Mediterranean, mainly those that could be preferred due to environmental reasons as well as products that could be under negotiations for causing environmental constraints;

(c) Identify direct steps for environmental intervention to overcome environmental degradation caused by free trade, such as packaging, eco-labels, environmental standards, as well as indirect steps such as national use of energy, water, etc.;

(d) Give due consideration for necessary accompanying measures for the benefit of developing partner countries, without neglecting the crucial subject of information and communication to concerned Mediterranean actors, including civil society;

(e) Give due consideration, when looking at relations between free trade and environment, to agriculture (which is not included in the Euro-Mediterranean Partnership), consumption patterns, macro-economic decisions, and their impact at the micro and local levels, together with accompanying policies and measures, and their impact on a Euro-Mediterranean Strategy;

(f) Strengthen synergy between free trade and environment, rather than adopting an approach opposing environmental protection and free trade, so that trade and environment become mutually reinforcing aspects of sustainable development;

(g) Identify capacity building requirements so that different actors can better manager free trade and environment relationships as they relate to policy, technology, information, training, and negotiation issues.

As can be easily noticed, most countries will be subject to various levels of negotiation in the framework of trade and globalization. For example, an ESCWA country on the Mediterranean will have to handle negotiations with neighboring countries, with sub-regional gr, with regional United Nations institutions, with the Arab League, and with the European Union. We consider that the level that will have most decisive impact will be the Euro-Mediterranean Partnership and the foreseen free trade zone by 2010. Obviously, its impact will not be limited to concerned Mediterranean countries. It will extend far beyond the Mediterranean coasts.

As you can notice, we are very prudent in handling the issues of free trade and environment in the Mediterranean, by aiming at reaching practical and useful recommendations. However, we do not intend to wait until these recommendations are complete to begin working with concerned actors in the field of free trade and environment. Similarly, as was, and still is, the case for the Barcelona Convention and its various protocols, we do not wait until its entry into force to work with concerned partners towards the promotion of key issues in a legal instrument. This same approach will be followed for free trade and environment, where we will work along with concerned partners on a mutually supportive promotion of free trade and environment protection as a key building block for the development of a Mediterranean Sustainable Development Strategy.

SECTION TWO
CASE STUDIES

IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF OIL TRADE IN GCC COUNTRIES

Dr. Hussein Abdallah

A. INTRODUCTION

This is a summary of the 58-page full text study. The summary purpose is to grasp the most important findings, conclusions and recommendations.

One major conclusion is that the thrust of adverse impact on oil trade and revenue is expected to be caused by Multilateral Environmental Agreements (MEAs) rather than by Multilateral Trade System (MTS). The biggest environmental challenge to oil-exporting countries comes from the Framework Convention of Climate Change (FCCC), from negotiation during COP meetings the last of which (COP-4) was held in Buenos Aires, November 1998. On the other hand, the Multilateral Trade System (MTS) seem to be there to ensure that environmental protection measures do not become protectionist devices: The Venezuelan-US gasoline case is a notable example.

On December 1997, representatives from more than 160 countries met in Kyoto, Japan, (COP3) to negotiate binding limits on greenhouse gases (GHG) emissions for developed nations. The result was Kyoto Protocol which calls for quantifiable goals for carbon emissions from the Annex I countries[1]*. Six GHG are* covered by the Protocol with the aggregate target based on the carbon dioxide (CO2) equivalent of each of the GHG.

The enforcement of the Protocol needs the ratification of at least 55 countries, incorporating Annex I countries that account for at least 55% of 1990 Annex I emissions. As of March 15, 1999, only 83 countries had signed the Protocol; but none of the Annex I countries had ratified it by that date.

Kyoto Protocol established emissions targets for each of the participating developed countries relative to their 1990 emissions levels. The targets range from an 8% reduction for the European Union (or its individual member states) to a 10% increase allowed for Iceland. The target for the U.S. is 7% below 1990 levels. Without Kyoto (Table 1), carbon emissions world wide are projected to increase by 38% between 1990-2010 (from 5.8 to 8.0 billion metric tons, bmt) and by 70% in 2020. Emissions in the industrialized world would grow over the period 1990-2020 by about 1.0 bmt, from 2.85 to 3.9 bmt. In the developing countries, carbon emissions are projected to grow more quickly over the same period from 1.65 to 4.9 bmt. The rapid increase is expected to be caused both by rapid economic growth, accompanied by growing demand for energy, and by continued heavy reliance on coal, especially in China and India.

Non-Annex I countries have no targets under the Protocol, but the Protocol reaffirms the commitments of the FCCC by all parties to formulate and implement climate change mitigation and adaptation programs.

Several scenarios of how the oil trade and revenue may adversely be affected under the Kyoto Protocol have been discussed in the detailed study and will be summarized later on together with how such damage could be treated. A reference case is built and used as a baseline case to measure relative changes caused by different scenarios effects.

In the coming decades, global environmental issues could significantly affect patterns of energy use. Levels of energy-related carbon emissions depend on economic growth, the amount of energy consumed per unit of economic activity, and the mix of non-fossil and fossil fuel sources used to produce useful energy. If

[1] Those were: Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, UK and USA.

carbon emissions are to be stabilized or reduced worldwide, there must be declines in energy intensity as well as substitution of less carbon-intensive fuels for more carbon-intensive fuels.

In combination with economic activity, energy intensity and carbon intensity of energy, determine the energy-related carbon dioxide emissions.

Energy intensity is a measure of the output of an economy in relationship to its energy inputs, and it is influenced by the energy efficiency of existing capital stock, such as electricity generation facilities, end-use equipment, and vehicles. The energy efficiency of the capital stock is in turn influenced by the relative prices of energy and other inputs to the economy, such as capital and labor. According to OPEC estimate, oil intensity is expected to decline at more rapid rates than energy intensity. Oil intensity as measured by tons of oil equivalent (toe) per $1000 of real GDP (1990 dollars), is expected to decline from 0.11 toe in 1997 to 0.09 toe in 2010 and to 0.07 in 2020.

Energy intensity in Annex I countries (mainly OECD) dropped sharply in the 1980s following the price increases of the late 1970s and early 1980s, and it is projected to continue declining by about 24% between 1996 and 2020 in the reference case.

Carbon Intensity of Energy Supply is a measure of the amount of carbon used per unit of energy produced. Because fossil fuels varies in this respect, fuel choice makes a significant difference in terms of the amount of CO2 emission. Coal emits the largest amount of carbon per unit of energy output, oil the next largest, and natural gas the least of the fossil fuels. For each ton of oil equivalent (toe), oil emits 0.82 ton of carbon, natural gas emits 0.63 ton and coal emits 1.05 ton of carbon. Therefore, fuel switching would contribute the most to meeting emissions reduction goals. Carbon intensity also differs across regions and over time. However, the differences tend to be smaller than the differences in energy intensity.

Despite projections of decreasing energy intensities and relatively stable carbon intensities, total carbon emissions from the industrialized nations are projected to grow, with GDP growth rates exceeding the rates of reduction in energy intensity. For the industrialized nations as a group, GDP growth is expected to be the most significant factor underlying the increase in carbon emissions.

The challenges of energy use and environmental quality facing the industrialized countries differ from those for the developing world. The industrialized countries have depended in their economic development on the availability of relatively low-cost fossil fuels. Given the amount of capital invested in the infrastructure, policies that modify underlying sources of energy inputs and end-use patterns will require time for turnover of existing capital stock. The principal challenge then, to the industrialized countries, is to implement policies that protect the global environment while allowing for flexible adjustment of their energy systems.

The developing world, while seeking to grow economically, is confronted with the environmental lessons learned from the industrialized countries process of economic growth. Within developing countries, much of the infrastructure that would support an industrialized economy is not yet in place. This presents an advantage in terms of identifying development paths that will allow greater scope for alternative energy sources and patterns of end-use consumption as new capital stock is put in place.

Table (1) shows the reference case (RC) or the baseline which is developed on business-as-usual assumptions and used to measure possible changes. Both world energy consumption and related carbon emissions are projected to increase by 62% or an average annual rate of 2.1% over the period 1996-2020. Much of the growth in energy use will occur in the industrialized world over the next two decades. Energy consumption in the developing world is expected to more than double over the projection period.

Several provisions of the Protocol allow for some flexibility in meeting the emissions targets. Emissions trading among the Annex I countries is allowed by Article 17, but no rules for trading were established. The Conference of the Parties (COP) is required to establish principles, rules, and guidelines for trading at a future date.

Additional carbon permits may also be available, depending on the "carbon price" that is established in international trading. Two concepts could generate certified emission reductions which are transferable to an Annex I country to meet its emissions target. Pursuant to Joint Implementation concept, projects are permitted among the Annex I countries, allowing a nation to take emissions credits for joint projects that reduce emissions or enhance emissions-absorbing sinks, such as forests and other vegetation, in other Annex I countries. The concept of Clean Development Mechanism (CDM), permits an Annex I country to take credits for projects that reduce emissions in non-Annex I countries. The CDM is the only one of the mechanisms which involve the participation of developing countries (DCs). It could lead to additional investment for mitigating projects and also assist DCs in undertaking climate protection measures.

In addition, any group of Annex I countries may create a bubble or umbrella to meet the total commitment of all the member nations. In a bubble, countries would agree to meet their total commitment jointly by allocating a share to each member. In an umbrella arrangement, the total reduction of all member nations would be met collectively through the trading of emission rights.

Guidelines for those flexible mechanisms provisions, however, remain to be resolved at future negotiation meetings. Because the exact rules that would govern the final implementation of the Protocol are not known with certainty, the specific reduction in energy-related emissions cannot be established.

At COP4, negotiation positions differed with regard to the flexible mechanisms implementation. The EU stressed that Parties must start with domestic action and that flexible mechanism should not create loopholes that weaken commitments. Hence, EU has proposed a cap on emission trading. A proposal was tabled at COP4 by the Group-77+China and the EU to combine the flexible mechanisms with a tax on the trading of carbon emission permits. In contrast, the "Umbrella Group", which includes US, Japan, Russia and others, rejected any restrictions on trade, in the form of either the proportion of emissions that may be traded or the introduction of a tax.

Now, the RC projection suggests that the industrialized world would account for about 30% of the world's increment in energy use between 1996 and 2010. If the Protocol's emission targets were achieved solely by reducing fossil energy use, consumption of fossil fuels in the industrialized countries would be reduced by between 15 and 30 million barrels of oil per day. It is more likely, however, that fuel-switching opportunities will be used and that a more modest reduction in total fossil fuel use will be required. Emissions trading and other offsets (such as reforestation) that may be allowed under the Protocol could further lower the need for fossil fuel reductions.

As Table (2) demonstrate, the achievement of Kyoto targets in 2010 would require industrialized Annex I to reduce their emissions by 24% relative to the reference case (RC). In contrast, emissions in Former Soviet Union (FSU) and Eastern Europe (EE) are much lower now than they were in 1990. At 1.3 bmt in 1990, and 0.84 bmt in 1996, carbon emission in EE/FSU are expected to reach 0.94 bmt in 2010 and 1 bmt in 2020.

If energy consumption in FSU grows as projected in RC, carbon emissions will remain about 33% below the levels allowed under the Protocol. By 2010, the FSU lower use of energy consumption would result in carbon emission of only 666 million metric tons (Table2). This would contribute 324 million metric tons of tradable emissions units available for purchase by the industrialized Annex I countries to use as credits in meeting their Kyoto targets. Accordingly, with the higher level of credits available from the EE/FSU, Annex I countries, as a group, would need to reduce emissions by only 10% from the RC projection (from 4344 to 3896 million tons of carbon) to meet their Kyoto targets.

B. Impact of Kyoto Protocol on U.S.

A US model covering a reference case and six carbon emissions reduction cases was developed by the Energy Information Authority (EIA). Of the reduction cases, two are of significance : Reference Case (RC) (33% above 1990 levels)which represents the reference projections without any enforced reductions and is presented as a baseline for comparisons. Energy-related carbon emissions is projected in the RC to reach 1,791 million metric tons in 2010. And, the 7% below 1990 levels (1990-7%) which is required by Kyoto.

The Protocol does not specify any targets beyond the first commitment period of 2008 through 2012. Therefore, this target is assumed to hold constant from 2013 through 2020.

Now, there are three ways to reduce energy-related carbon emissions: (a) reducing the demand for energy sources, (b) adopting more energy-efficient equipment, and (c) switching to less carbon-intensive or non-carbon fuels.

To reduce emissions, there must be a carbon price to be applied to the cost of each fuel relative to its carbon content at its point of consumption. In 2010, the carbon prices projected to achieve the carbon emissions reduction targets range from $67 per metric ton (1996 dollars) in the 1990+24% case to $348 per metric ton in the 1990-7% case. The price which would achieve the US Kyoto target would be the one that reflects the effect on the economy caused by imposing carbon taxes, or otherwise, the price which the U.S. is willing to pay to purchase emission permits from other sellers. The ultimate impacts of carbon mitigation policies on the economy will be determined by complex interactions between elements of aggregate supply and demand, in conjunction with monetary and fiscal policy which should accompany carbon reduction policies decisions.

The findings of the US model are complex and some of which are briefly presented in our detailed study. The National Energy Modeling System (NEMS) which was used by EIA, is an energy-economy modeling system of U.S. energy markets. The production, imports, conversion, consumption, and prices of energy are projected for each year through 2020, subject to assumptions on macroeconomic and financial factors, world energy markets, resource availability and costs, and technological choice criteria, costs and performance characteristics of energy technologies, and demographics. NEMS is a fully integrated framework, capturing the interactions of energy supply, demand, and prices across all fuels and all sectors of U.S. energy markets.

There are, however, certain uncertainties in the US case analysis. The RC projections represent business-as-usual forecasts, given known trends in technology and demographics, current laws and regulations, and the specific methodologies and assumptions used by the EIA. Because EIA does not include future legislative and regulatory changes in its RC projections, the projections provide a policy-neutral baseline against which the impacts of policy initiatives can be analyzed.

Results from any model or analysis are highly uncertain. By their nature, energy models are simplified representations of complex energy markets. The results of any analysis are highly dependent on the specific data, assumptions, behavioral characteristics, methodologies, and model structures included. In addition, many of the factors that influence the future development of energy markets are highly uncertain, including weather, political and economic disruptions, technology development, and policy initiatives. Recognizing these uncertainties, EIA has attempted in this study to isolate and analyze the most important factors affecting future carbon emissions and carbon prices. The results of the various cases should be considered as relative changes to the comparative baseline cases.

In addition to the uncertainties concerning the final interpretation and implementation of the Kyoto Protocol, specific actions that might be taken to reduce GHG emissions in the U.S. have not been formulated. Actions taken by other Annex I countries to reduce emissions, future growth in worldwide energy consumption and emissions, and the opportunities for reducing emissions through joint implementation and the CDM are unknown, and they are likely to have important impacts on the international trade of carbon permits and the carbon permit price. This analysis assumes that auctioned permits will constrain carbon emissions and raise the price of fossil fuels, with revenues from the auction recycled to consumers either through personal income tax or social security tax rebates. Alternative carbon reduction programs and fiscal policies would be likely to change the cost of carbon reduction from the costs in this analysis. The timing of carbon reduction programs and the amount of adjustment time allowed could also be important in determining costs.

Future technology development also cannot be known with certainty and may have a significant effect on the cost of achieving carbon reductions. The technology cases in this analysis explore some of the

potential impacts, but even the high technology case does not include possible breakthrough or speculative technologies. On the other hand, even the RC technology assumptions include continued development of more energy-efficient and renewable technologies, which serve to mitigate the costs of carbon reduction. Those technology improvements are likely, but not certain.

Finally, consumer response to carbon initiatives is uncertain. Because energy price changes that have occurred in the past may not provide sufficient evidence about the reaction of consumers to sustained high energy prices, changes in demand as a result of the higher carbon fees cannot be projected with confidence. In addition to price-induced changes, consumers might also respond to climate change initiatives and a national commitment to reduce emissions by adopting more energy-efficient or renewable technologies sooner than expected. Finally, public acceptance of large-scale renewable technologies or the continuation of nuclear power - both of which make important contributions to the achievement of the carbon emissions reductions at the costs projected in this analysis - cannot be known with certainty.

One major conclusion of the US model, is that the emission limitation or reduction will necessitate the reduction of energy consumption, including oil. Given the highly dependence of US on oil imports, this would mean a loss of revenue for oil exporters. The same would be true for all OECD countries. By how much and how can oil exporters defend their interests? This is what we will try to answer soon.

C. European Union Carbon Tax

The EU environmental policy has been analyzed in detail in our study with special emphasis on the European carbon tax proposal, has been swinging among acceptance and refusal by member countries since 1990. Important findings explain the working aspects of the carbon tax and shed some light on its real effects in relation to carbon emission. It is characterized by being a practical proposal tailored to real life, while the US model tends to be more hypothetical.

Without going into the details, the latest version of the proposal may not have a chance to survive, since it needs the unanimous support of member states to become law. Britain has received the new approach with much doubt, despite the fact that it was the closest to what Britain has been promoting all the way from the inception of the carbon tax proposal. The British Chancellor of the Exchequer expressed these doubts, in May 1995, when he said that the carbon tax would impair the competitiveness of European industries in world markets. In December 1998, He warned Franco-German attempts to push harmonization of direct taxes after the single currency is introduced, and said that Britain will block harmonization of energy taxes on oil, gas and electricity. He insisted that a plan to introduce an EU-wide carbon energy tax, putting a levy on business use of oil, gas and electricity, will not be agreed if it is against Britain's interest. He also stressed that anything proposed on tax requires a unanimous vote and that Britain is absolutely determined to continue setting its taxation policy.

The European Federation of Employers' Associations (UNICE) and most energy-intensive industries such as the steel and car sectors share the view of the European chemical industry that the tax proposal threatens international competitiveness. The European Chemical Industry Council (CEFIC) points out that Europe already has energy prices that are on average 30% higher than those in the US. Related taxes put a further 7% on top, which would increase by another 6% under the new proposal. It adds that the European chemical industry has voluntarily committed itself to improving energy efficiency by 20% by 2005 from 1990 levels. The CEFIC welcomes the Commission's exemptions but points out that some are left to member states' discretion which allow certain freedom of maneuvering.

The French Minister of Economy also said that the tax would complicate the EU efforts to curb CO2 emission, not to mention its lack of flexibility because it is designed to become mandatory by 2000.

On the other side, some EU members,(Germany, Italy and Denmark) were strongly in favor of the new tax proposal.

In fact, some countries, such as Netherlands, Germany, Denmark and Belgium have already added to their tax structures a new tax labeled " carbon tax ".

D. The Framework of Oil Market

Oil was not explicitly excluded from GATT 1947, but the principal trading parties to GATT, mainly OECD members, treated oil as if it was. Their main goal was to keep the precious source of energy flowing to feed their energy-hunger economies after WW II and to avoid problems that may cause unnecessary oil interruption. Under a seemingly "Gentleman Agreement", Western multinational oil companies pushed Arab oil production from one million barrels per day (b/d) in 1950 to nearly 20 million b/d by early 1970s. The Western Oil Cartel also reduced the price of oil from $2.18 per barrel in 1947 to $1.80 in 1960 where it was kept frozen at this level until 1970. By contrast, the price index of OECD exports, which are practically barter traded with oil, jumped during the same period from 100 to 300. This meant that the real price of oil, valued in 1947 dollars, has gone down to only 70 cents. Consequently, host governments which were entitled to only 50% of oil profit, got no more than 30 cents per barrel in terms of 1947 dollars.

Under the umbrella of 1973 October War, oil exporting countries recovered their freedom to determine oil prices and production volumes. The price of crude oil was quadrupled from nearly $ 3 to $11.65. Consequently, the distribution of rent tended to tilt in their favor. In 1975, the price of a composite refined barrel jumped in EC markets to $27.90 and the rent increased to $18.90. Therefore, the share of oil exporting countries rose to 52% and that of the consuming countries fell to 48%. In 1980, oil rent peaked and was distributed 64% (or $34.30) to oil producers, and 36% (or $18.95) to governments of oil consuming countries. A barrel of refined products was selling at $65.50 to ultimate consumers in that year.

Crude oil prices began a downward trend during the first half of 1980's, first in gradual steps and then in a crash which brought the price down from $28 in 1985 to an average of $13 in 1986. At this point, the European governments did not permit the saving in crude oil price to pass to ultimate consumers. If they did, the natural outcome would have been a remarkable jump in demand for oil. On the contrary, they hastened in boosting oil taxes from $22.50 in 1985 to nearly $30 in 1986. The tax hikes continued thereafter to reach $52 in 1991 and $66 in 1995. As we explained in Chapter (4), the EC proposal of a carbon tax comes as a heavy burden on top of existing tax structure that is already biased against oil and in favor of coal which is more polluting than oil .

The price of crude oil (as represented by OPEC basket price, cif Europe) continued to decline after the Iraqi defeat, from $19.33 in 1991 to $18. 22 in 1992 to $16.07 in 1993 and to $ 15.53 in 1994. The revival period of this price in 1996-1997 was short-lived because the price of oil crashed again during 1998 and early 1999 to a level of $12 per barrel which amounts in real terms to no more than $4 dollars in terms of 1973 dollars.

Another negative impact on oil exporters which results from increased taxes in oil consuming countries, is the separation of ultimate consumers from the positive effect of decreasing crude oil prices. As was mentioned earlier, a natural effect of reduced crude prices would be expected to result in increasing oil consumption and rising demand for oil. However, this positive effect was offset because industrialized countries were keen to boost taxes on oil products every time crude prices went down.

The explanation of policies that led to decreasing crude oil prices is beyond the scope of this paper[2]. But one of those policies, however, need to be touched upon because it is directly related to GATT. OPEC members were accused by GATT of transgressing GATT regulations and establishing a commercial cartel in order to increase oil prices and restrict free trade. Consequently the US Congress was induced to enact retaliatory procedures against OPEC members which deprived them the benefits of the Generalized System

[2] For details of this policy, see the author's study, "OPEC and the Oil Market After the Gulf Crisis", OPEC Review, Winter 1991.

of Preference (GSP)[3]. This, in addition to other pressures, forced OPEC members to abandon, since 1986, their policy of commitment to fixed prices. Henceforth, prices were determined through market competition (market-oriented pricing) under which oil prices kept dwindling and subject to violent fluctuation.

In fact, OPEC members did not invent anything when they coordinated their oil supplies in order to guard against wasting their basic export commodity at abnormally low prices. This was earlier exemplified by some American oil-producing states (such as Texas and Louisiana) when they decreed and implemented systems and programs to limit the volume of American oil pumped into local markets in order to sustain at a certain level oil prices and producers income. Such measures are accepted in natural resources economics and policies as a tool to maintain the stability of industry.

Moreover, OPEC action was in complete consistency with Article 20 of GATT which authorizes governments to take necessary measures to preserve depletable and scarce natural resources as we will explain in Chapter (8). To put a ceiling on oil production in order to sustain a reasonable depletion rate is quite legitimate, since oil is a scarce depletable commodity. On the other hand, in order for an OPEC member to enforce OPEC resolutions, such resolution have to be unanimously voted, which means that OPEC is no more than a consultation forum in the same manner, or may be less, like the International Energy Agency which is established by OECD countries. Therefore, to set up a ceiling on oil production as a means to conserve this depletable natural source in times of exceptionally low prices, even in consultation with other oil producers, should not be interpreted as creating a commercial cartel restrictive of free trade. Had it been true that OPEC members were forming a commercial cartel, how would it be possible to explain the downward trend in oil prices starting in the early 1980s, and their crash in 1986, as well as the erosion of their current and real values henceforth?

World Dependence on Arab Oil

Arab oil exporters enjoy an excellent collective negotiating power in international oil markets. At present, they provide nearly 18 million b/d to the world oil market, or 45% of world oil exports which reached 40.4 million b/d in 1998. This percentage even rises if we count only oil exports to the most important consuming region and exclude movements of oil within each region.

As for the future, market fundamentals indicate that the world is expected to become increasingly dependent on Arab oil. As shown by Table (1), the reference scenario expects world demand for energy to increase from 189 million barrels of oil equivalent per day in 1996 to nearly 254 million boe/d in 2010, and 305 boe/d in 2020 at an average growth rate of 2.1% per year.

OPEC estimate of average annual rate of growth of world oil demand reflects a wide discrepancy from those of other forecasters. For the period 1997-2020, OPEC estimate runs as low as 1.3% per annum, while EIA estimate of that rate is 1.8% (Table 3). Other forecasters estimates of oil production, which is the same as oil demand, are as follows : IEA 1.9%, DRI 2.0%, PEL 1.9% over 1995-2015, and PIRA 2.0% over 1995-2010 period[4]. It is obvious that OPEC estimate is too low. EIA estimate, which we adopt , reflects a close average of all available forecasts. Accordingly, world oil consumption would be expected to grow from 71.5 million b/d in 1996 to about 93.5 million b/d in 2010 and 110 million b/d in 2020, at an average growth rate of 1.8% per year (Table3).

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[3] The GATT round which was held in Tokyo, 1979, introduced a number of exceptions and privileges that could only be enjoyed by developing countries. The Generalized System of Preferences (GSP) was one important privilege according to which industrialized countries were committed to reduce their tariffs on finished and semi-finished commodities when imported from developing countries. The list of GSP included petrochemicals produced by developing countries, yet, industrialized countries often used quantity and ad valerom barriers to impede the in-flow of such products.

[4] EIA = Energy Information Authority
IEA = International Energy Agency
DRI = Standard and Poor's DRI, "World Economic Outlook"
PEL = Oil Economics, Ltd.
PIRA = PIRA Energy Group

World oil trade is expected to grow from 37 million b/d in 1995 (and 40.4 million b/d in 1998) to nearly 66 million b/d by 2020 (Table 4). Of this tradable volume, OPEC share is expected to reach 72% (48 mb/d) in 2020. Within OPEC only six member states would be able to boost their productive capacity enough to export 42 mb/d or nearly 63% of world oil exports by 2020. These major six countries are Saudi Arabia, Iraq, Iran, UAE, Kuwait and Venezuela.

The significance of this trend is obvious in view of production and marketing policies. In case oil importing countries decide to impose higher carbon taxes and the volume of tradable oil is consequently reduced causing great losses in oil revenue, oil exporters, who will become fewer in number and with larger share of the market, should be able to counteract. One of the options open for them would be to maintain oil supply at such a level that would sustain a higher oil price and keep total oil revenues intact. In other words, they should not stand watching oil volumes shrinking due to environmental policies and still maintain the same level of exports as before. This would be a valid movement, since excise taxes in consuming countries account for the largest portion of price paid by ultimate consumers (nearly 70% in W. Europe). It would be only legitimate for oil exporters to at least sustain their share of oil rent and let oil importing countries balance the situation by matching reduction in their heavy oil taxes.

According to the same reference scenario, oil exports of non-OPEC is expected to rise from 14 million b/d in 1995 to nearly 18.5 million b/d by 2020, but their share of the market would decline from 38% to 28% over this period.

From the above, we may conclude that world dependence on Arab oil will be on the rise. The Arab oil exporters will be in a position strong enough to control the flow of oil exports during the second decade of the 21st Century. Given the fact that oil is the single and most important Arab export commodity, for now and over the foreseeable future, the need to examine its role under WTO and Kyoto Protocol need now to be further elaborated

E. Impact of Kyoto Protocol on OPEC

1. *OPEC Reference Case*

OPEC has built a reference scenario using its OPEC World Energy Model (OWEM). The reference case is based on business-as-usual assumption, free of the Kyoto impact, and is used as a baseline scenario. Its Oil prices are assumed to $17 per barrel of OPEC basket price in 2000, and growing at an annual rate of 1.5% to reach (in 1998 dollars) $19.4 in 2010 and $22.5 in 2020[5].

World real GDP is assumed to grow at a rate of 3.4% during 2000-2010 and a rate of 3.1% during 2010-2020. For comparison, other estimates of economic growth rates over the period 1995-2020 are: 2.9% by EIA, 3.1% by IEA, 2.9% by DRI, and over 1997-2010 period 2.9% by PEL, and over 1995-2010 period 3.5% by PIRA.

Energy Taxation which are aiming at reducing CO2 emissions is assumed not to change. Yet, existing energy taxes are assumed to grow in line with inflation.

Efficiency Improvement: Non-price energy efficiency improvements is called "autonomous energy efficiency improvement" (AEEI). A typical AEEI value ranges between 0 and 1,5% per annum. It plays a central role in determining energy intensity, hence energy demand growth. Although it is subject to much uncertainty, OPEC scenario adopts a value of 1% in OECD region and slightly higher rates for non-OECD regions.

Based on the above assumptions, OPEC estimates of world oil production is shown in Table (5), together with six other forecasts. An average of all estimate puts OPEC production in 2010 around 40

[5] This means that the price in current dollars should be escalated at a rate equal to inflation rate in industrialized countries, using 1998 as a base year.

million b/d with a low of 36 million b/d and a high of 44 million b/d. For 2020, OPEC production ranges around 50 million b/d with a low of 47 million b/d and a high of 57 million b/d.

2. *Effect of Kyoto on OPEC*

As was earlier explained, there are few signs of a formal tax proposal in EU to deal with the Kyoto targets. The U.S., on the other hand, has shown that it would have substantial obstacles to overcome if it were to contemplate the imposition of new taxes on any significant scale[6]. This, together with appeal of lower-costs, accounts for US enthusiasm for emissions permit-trading. This would of course place an additional cost on the use of carbon-based fuels in much the same way as would a carbon tax. Yet, the payment would not lie so visible as a tax.

It is, therefore, highly questionable whether large carbon taxes will be implemented in Annex I countries in an attempt to reach Kyoto emission targets. Nevertheless, it may be useful to analyze scenarios that adopt the imposition of carbon taxes as a means to get some insight of the issue at hand.

Given the Kyoto Protocol targets, the signals that are transmitted through the energy price movements allow a specific assessment of the potential implications for each fossil fuel. Alternative production paths and revenues open for OPEC countries would vary with different scenarios. Furthermore, the issue of trading in permits can be addressed in the context of the alternative marginal costs of abatement arising from a domestic tax policy. The degree to which the Kyoto "flexible mechanisms" are used, can also be considered in light of such scenarios.

According to OPEC model, the initial scenario, "Kyoto Alone", assumes that each of the three OECD regions will impose a carbon tax that is sufficient to reach their own Kyoto emissions targets by 2010. The targets relative to 1990 level of emission are -6.5% in North America, -8.0% in Western Europe and -3.2% in OECD Pacific.

It is assumed that the tax is both revenue-and inflation-neutral, thereby minimizing economic damage from this policy. It is further assumed, in this initial scenario, that oil prices remain at reference case levels, thereby implying that the fall in oil demand resulting from the tax is entirely absorbed by OPEC in the form of lower production and no price increase. It is also assumed that the tax level is imposed immediately, not phased-in.

The following table shows taxes imposed to achieve Kyoto Protocol targets under different scenarios. ($(98) per ton of CO2)[7].

Region	Kyoto Alone	OECD	Annex I trade	Global Trade
N. America	67.9	85.5	39.2	15.3
W. Europe	128.2	85.5	39.2	15.3
OECD Pacific	94.3	85.5	39.2	15.3

As shown by Table (6), the imposition of the Kyoto Alone level of taxes, in order to reach the appropriate abatement targets, implies a fall in OECD demand of 6.5 mb/d by the year 2010, down to 42.0 mb/d compared with 48.5 mb/d that it would have reached in the reference case. This translates into a fall in the call on OPEC oil of close to 7 mb/d by that date, (from 39.6 mb/d to only 32.7mb/d). OPEC annualized revenue losses in this case are close to $23 billion.

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[6] The original Clinton proposal for a Btu tax was criticized, due to concern about large job losses, and even the subsequent diluted tax option of 4.3 cents on transportation fuels alone was never passed by Congress.

[7] Notice that the tax per ton of carbon has to be multiplied by a factor of approximately 3.4. For example, when the tax per ton of CO2 is $85.5, the tax per ton of carbon would be about $290.

However, given the exceptionally high tax levels in this scenario[8], it is highly unlikely that such an outcome would materialize. This is not to say that strong downward pressure on oil demand will not emerge. Regulatory measures may eventually be the key policy tool for achieving abatement targets. Nevertheless, to the extent that a price signal is to be used to achieve Kyoto emission reduction, it is clear from the above scenario that a regional tax, such as the EU Carbon Tax, is unlikely to be the prime route.

The lower cost of abatement in North America is exploited in the second scenario, Kyoto OECD where it is assumed that trade in permits is possible, but only among the three OECD regions. This scenario would generate the same aggregate emission reduction. A tax of just over $85/t CO2 would be sufficient to achieve the target abatement. At this level, North America undertakes more abatement than is actually required of it from the Kyoto Protocol, while Western Europe reduces emission by less than the target. OECD pacific emits only marginally more than in the previous scenario. These discrepancies are the basis for the trade in permits, with North America the seller to Western Europe of permits for over 100 mt of carbon. This is, indeed inconsistent prospect, given the contrary negotiation positions of these regions, where North America is apparently the most keen to purchase permits.

This significant amount of potential trade within the OECD has no major additional implications for OPEC. By 2010, annualized revenue losses are close to the $23 bn arising from Kyoto Alone scenario with no trade. The loss of oil volume in one region will be balanced by a gain in another while the total loss of OPEC production will be the same as in the Kyoto Alone scenario.

The OECD scenario is also not likely to materialize, because of both the conflict with national and regional positions. The potential for trade between all Annex I Parties, including FSU/EE, seems to be the most likely one. Both the FSU and EE are involved in abatement efforts, and this results in more trade in permits.

Once full Annex I trade is allowed, the cost imposed upon carbon falls even further down to just below $40/t CO2 (or $140 per ton of carbon). In this scenario, North America purchases of permits still account for less than 50% of its total commitment, while Western Europe uses trading to satisfy close to 70% of its abatement target. Thus the position of the West European countries of insisting on limiting the extent to which flexible mechanisms should be used to satisfy commitments (through capping), is contrary to their economic interests. This is the region that would have the greatest demand for permits relative to its own targets.

With full Annex I trade, OPEC annualized revenue losses are down to $14bn (discounted at 5% per annum), compared with $23 bn with no trade. OECD oil demand falls by only 2.3 mb/d, with a slightly smaller fall of 1.5 rnb/d coming from the FSU/EE. Thus, allowing trade in carbon emissions has a less negative impact upon OPEC export revenue.

The issue of capping the use of flexible mechanisms, therefore, has a direct bearing on OPEC economic interests. Setting a limit of 50% in the context of the previous full Annex I trade scenario would only affect Western Europe, since this would limit its permit purchase to 50% instead of 70%. The other two OECD regions would in any case be expected to purchase less than this limit. With such a cap, OPEC losses would be to the order of $1 bn per year greater than if full trade is allowed. A cap of 30% increases the additional losses to around $2 bn annually. Reducing the limit to 10% increases the additional losses to around $6 bn per annum.

The final scenario is allowing full Global Trade to achieve the Annex I targets laid down in the Kyoto Protocol. Although full emissions trading is not foreseen in the Kyoto Protocol, the CDM can be seen as the means of involving developing countries in some of the carbon trade. This scenario is therefore intended to provide an assessment of the possible implications for OPEC of this mechanism.

[8] The order of magnitude of these taxes is approximately equivalent to current tax levels on the composite barrel in OECD regions.

The tax is now only $15/t CO2, and produces the lowest OPEC revenue losses of all scenarios, down to under $12 bn per annum, or about half of the losses with no trade. In this scenario, 45% of the reduction in emissions by 2010, compared with the reference case, stem from non-Annex I countries. Consequently, although Annex I oil demand is only 1.8 mb/d lower by 2010, this is matched by a further fall of 1.7 mb/d from non-Annex I countries.

These scenarios indicate that trading reduces the marginal cost of abatement by allowing access to cheaper abatement options that are not available domestically. The result is a switch in emphasis away from abatement in the OECD to either the FSU and Eastern Europe, or with mechanisms such as the CDM, to reduce emission in developing countries. This change in regional emphasis also brings with it a broad shift in attention towards reduced coal consumption. As a result, oil demand contraction is not as great as in the non-trading situation.

3. *Oil price movements*

Maintaining reference case prices, by assuming that OPEC absorbs all reduction in oil demand, gives rise to substantial revenue losses. The next scenario therefore considers whether OPEC could maintain its reference case cumulative revenue by sustaining a higher oil price than is assumed for the reference case. Under the Kyoto Alone scenario, where each OECD region is applying the carbon tax appropriate to its own emission target, OPEC would restraint production in order to sustain crude oil price at sufficiently high level to generate the same cumulative export revenue by the year 2010 as in the reference case. Here we see that OPEC production must fall to below 1995 levels and remain approximately flat for around five years, followed by only a gradual increase that leaves output in 2010 at 29 mb/d similar to current levels. This would produce a robust real oil price of $22.7/b throughout the period to 2010 and maintain oil export revenue unaffected.

The following table shows the Kyoto Alone scenario under high and low oil prices (reference year = 2010):

	Reference case	Kyoto Alone	High oil price	Low oil price
Real basket price $(98)/b	19.4	18.8	22.7	11.2
Discounted annual OPEC revenue $(98) billion	144.2	120.9	144.2	81.2
World oil demand mb/d	87.9	80.6	79.0	84.2
Non-OPEC production mb/d	48.3	48.0	49.9	44.4
OPEC production mb/d	39.6	32.7	29.1	39.8

The lower price gives rise to an additional 5mb/d of world oil demand, compared with the strong price. Non-OPEC supply is down by a similar amount. Yet, the higher OPEC volume (from 29.1 mb/d to 39.8 mb/d) is not sufficient to compensate for the lower price. By 2010 revenue losses with softer prices are more than $60bn per annum compared with $23bn with references case prices, and zero with strong prices. In this context, soft oil prices can therefore be regarded as a more potent threat to revenue flows than climate change mitigation measures.

The above is one of the option opened for OPEC to maintain its oil revenue by adopting a firm price strategy consistent with significant production restraint. Given the world increased dependence on Arab oil, and that fewer number of oil exporters will be able to provide two thirds of world oil exports, the maintenance of oil revenue should not face much difficulty.

However, to include non-OPEC in this strategy represents another aspect of market management and an option for limiting the damage from climate change mitigation measures. While an OPEC strategy to sustain firm prices results in free-rider gains for non-OPEC oil exporters, softer prices also result in revenue losses for non-OPEC exporters.

In the above firm price scenario, where OPEC retains its cumulative revenue, OPEC production by 2010 is down by over 10 mb/d compared with the reference case. If we now assume that both FSU and developing country oil exporters were to become part of the oil price maintenance strategy, then OPEC oil production could grow swifter and still be consistent with the firm oil price. OPEC production is now only 16% below reference case levels by 2010, while FSU + DC production is about 9% lower. This joint maintenance of a firm oil price reduces OPEC losses to just $3 bn annually while the non-OPEC group has higher revenue than the base case, to the order of $1 bn per annum. Although it seems difficult to enforce in light of past experience, the idea of joint production restraint could lend some plausibility to the idea of using market management to defend oil export revenue that would otherwise be eroded by climate change mitigation policies.

One major conclusion from OPEC model demonstrates that abatement targets of GHG emission as envisaged by the Kyoto Protocol is likely to cause substantial oil export revenue losses for OPEC countries. Although the impact of allowing trade in emission permits reduces the severity of these losses, they remain high. Joint management of relatively high oil price with non-OPEC oil exporting countries offers the most feasible route to mitigating the severity of losses incurred, together with a full global trading system that is unrestricted by capping.

F. THE U.S.-VENEZUELAN CASE

The US banned gasoline imports from Venezuela on the grounds of technical incompatibility with the standards of US Clean Air Act. Venezuela argued that the US regulation violated GATT's principles of national treatment and MFN, as well as the provisions of Technical Barriers to Trade. Claiming that environmental measures were used by the US as disguised restrictions on international trade, Venezuela wanted its gasoline to be subject to the same rules as gasoline produced in the US and third countries.

Rejecting the US argument, the WTO Dispute Settlement Body held that imported gasoline was effectively accorded less favorable treatment than domestic gasoline. The Panel further agreed that a policy to reduce air pollution fell within the sovereign rights of the US. It also held that it was not the necessity of the policy goal that was in issue, but rather the necessity of the particular measure for achieving that goal. The Appellate Body, while leaving the Panel's conclusion in favor of Venezuela intact, modified its interpretation of Article XX(g) by stating that this Article is not intended to establish an empirical effect test. In other words, once the US had proved that the measures concerned imposed restrictions in respect of both imported and domestically produced gasoline, it did not have to prove a causal link between the measures and the conservation of the natural resources which was the clean air in that case.

This particular interpretation of Article XX(g) is the one which we will later use to pursue an argument in favor of oil exporters right to set up a ceiling on oil production as a measure to conserve the rate of oil depletion.

A related issue to the Venezuelan gasoline case, is the WTO Agreement on Technical Barriers to Trade (TBT) which basic objective is that technical regulations, standards and conformity assessment procedures should not become unnecessary obstacles to international trade. TBT Agreement also introduced the voluntary Code of Good Practice for the Preparation, Adoption and Application of Standards. Among other objective, the Code is to harmonize standards to the greatest extent and to promote the use of international standards. Given the complexity of technical regulations and standards in oil industry, TBT Agreement would provide guidelines to ensure that such measures are not used as barriers to oil trade.

G. WTO IMPLICATIONS ON OIL TRADE

1. *Committee on Trade and Environment (CTE)*

The CTE is expected to move from the stage of consultation to negotiation. This transition will pose the greatest challenge to developing countries which should be prepared to defend their interests during this phase. The following reflect the views that were so far subject to consensus by the CTE members:

(1) The competence of MTS was limited to trade policies and trade-related aspects of environmental policies.

(2) WTO members were committed not to introduce WTO-inconsistent or protectionist trade restrictions or countervailing measures to offset adverse effects of environmental policies.

Under this item, a WTO member could challenge a decision by an oil exporter to set up a ceiling on oil production in order to sustain oil price at such a high level as to maintain oil revenue if oil export volumes were reduced pursuant to environmental taxes.

This is one of the scenarios that were discussed in Chapter (6), and we will soon present the argument which an oil exporter could use to defeat such challenge.

(3) Governments had the right to establish their national environmental standards in accordance with their needs and priorities. Moreover, they are not obliged to relax their existing national environmental standards or enforcement in order to promote their trade. However, since discussions of the Conference of the Parties to the FCCC have not yet specifically authorized the use of trade measures to achieve environmental targets, it is too early to judge whether national governments would use such measures to meet their emission targets as mandated by Kyoto Protocol.

This is also a principle that was confirmed by the Appellate Body in the US-Venezuelan case discussed in Chapter (7), and we will soon explain how an oil exporter could use it to support his argument.

(4) On the issue of relationship between MEAs and MTS, the CTE members agree that no need for the time being to modify WTO provisions in order to provide increased accommodation in this area. The WTO provisions already provide broad scope for trade measures to be applied pursuant to MEAs in a WTO-consistent manner.

The CTE endorsed multilateral solutions as the best and most effective way to address global and transboundary environmental problems. It pointed to clear complementarity that existed between this approach and that of WTO. Trade restrictions were not the only nor necessarily the most effective policy to use in MEAs. In fact, the CTE stresses that international trade and environmental policies are and should be made mutually supportive for the promotion of sustainable development.
This view has been rephrased in a recent detailed report issued by WTO in 8 October 1999, the summary of which is annexed to this study.

(5) Views CTE members differed as to whether GATT Article XX did or did not permit a member to impose unilateral trade restrictions to protect environment outside its jurisdiction or territory.

(6) As regards the relationship between the MTS and taxes and charges for environmental purposes, measures such as border tax adjustment to energy products were discussed. The WTO allows border tax adjustment, since taxes can affect the competitiveness of domestically produced goods relative to products from other countries. Product tax can be levied on imported products (at the same rate as on domestic like products), whereas an exemption or remission of taxes can be granted for products to be exported. Key questions that arise in the context of the trade and environment debate relate to the treatment of "like" and

"competing" products, and the extent to which border tax adjustments should be allowed. With regard to the first point, under the WTO rules (Article III:2, first paragraph), countries cannot impose a higher tax on an imported product than on a domestic like product. However, different tax rates may be applied to products which are not "like" products. With regard to whether border tax adjustments can apply to taxes on inputs – WTO rules allow the adjustment of a specific tax if the taxed input is physically incorporated in the product in question (e.g. carbon content of fuels). A common interpretation of the WTO rules is that taxes on non-incorporated inputs (e.g. carbon-dioxide emissions during production), as well as taxes on production processes, are generally not eligible for adjustment.

So far, this particular matter has not had a high profile in the CTE discussions. Yet, there are concrete proposals by a number of WTO Members that favor the application of this type of tax – not only to products (currently permitted, provided that it is not discriminatory) but also to those production processes in which fossil energy is used as an input. The CTE has concluded that further work is needed in this issue.

(6) The CTE also discussed how the removal of trade restrictions and distortions such as high tariffs, tariff escalation, non-tariff measures, export restrictions and subsidies could benefit both MTS and environment.

Until now, CTE discussions have centered on the agriculture sector, but a proposal on the energy sector has also been tabled.

In what follows, we provide the argument against those who may challenge the legitimate right of oil-exporting countries to regulate and conserve oil which is a depleting natural resource:

2. *Oil Export Restrictions and Barriers to Market Access*

Although GATT rules eliminate quantitative restrictions on both exports and imports, yet, GATT provides general exceptions to these rules. One of such general exceptions is applicable to oil and gas, though with some differences of opinions. As Article XX(g) of 1994 GATT states : nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures relating to the conservation of exhaustible natural resources if such measures are effective in conjunction with restrictions on domestic production or consumption.

Some analysts are of the view that since oil exporters provide oil to domestic industry at prices lower than those prevailing on the world market (subsidized), then the second condition of the Article which requires restrictions being extended to domestic consumption is not met.

However, in support of what could be an oil exporter views, we suggest the following argument:

(1) WTO members who have effective commercial weight have successfully been able to push through their own interpretation of GATT provisions. The GATT rules are open to conflicting interpretations, and therefore, are subject to manipulation. We strongly recommend that oil exporters establish, within OPEC Secretariat or elsewhere, a permanent core group of high level experts who are capable of thoroughly studying in depth the complex issues of GATT and Oil. The group will study the overall as well as case by case problems that are expected to arise under WTO and provide the oil exporters negotiators and decision-makers with proper guidelines and recommendations to benefit from during WTO negotiation.

(2) As was earlier explained, major oil exporters, mainly the Gulf plus Venezuela, are expected to supply nearly two thirds of world oil trade by 2020. Therefore, they should try to create an oil core group within WTO members. Not necessary under a formal institution, the Core senior experts and officials could exchange experiences and form a collective and coordinated position during WTO negotiation, including those within CTE.

(3) In trying to push the positive interpretation of GATT Article XX(g), one may benefit from the dispute settlement case of the Venezuelan gasoline exports to the United States. A WTO member who adopts measures to conserve his natural resource is not obliged to prove by empirical test that these measures are capable of achieving the conservation goal. No causality test is required in such cases. Therefore, an oil exporter is only required to state that he sets a production ceiling in times of unusually low prices in order to avoid wasting oil resources and preserve a reasonable rate of oil depletion. With this statement the first condition of Article XX(g), which is the conservation goal, will be fulfilled.

(4) The fact that such ceiling decision is taken after consultation with other oil exporters (members or non-members of OPEC) does not make any difference. Since OPEC decisions should be unanimous, OPEC is only a consultation forum and the decision to set a ceiling on oil production by any member is completely determined by his national sovereignty over natural resources which is an indisputable right.

(5) In as much as oil exporters do, oil consumers also consult and adopt collective plans in many forums, most important of which is the International Energy Agency (IEA).

(6) This interpretation of Article XX(g) could further be supported by the fact that an oil exporter who sets a production ceiling makes oil available to all buyers who are ready to pay a price determined by market forces and is characterized by transparency through a wide spectrum of electronic communication. There is neither boycotting or discrimination against any buyer, nor price setting through group coalition.

(7) The production curb applies equally to both exports and domestic consumption as required by Article XX(g). However, even if domestic oil consumption is given priority over export, Article XX(I) deals with this situation. This Article justifies measures involving restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to nondiscrimination.

(8) As to the problem of dual-pricing which has been challenged by the EU and US as being a distorting element to free trade, there is a different definition of the whole process of supplying domestic oil needs. An integrated national oil company usually undertakes the whole integrated process from the well to the ultimate consumer. Therefore, crude oil which is directed to local markets enters the integrated industrial process as an intermediate input priced at cost. There is no posted price for such oil to be compared with international prices. The only known price would be that of each final oil product at the ultimate consumer's end. Such prices may or may not include local taxes which are permissible according to GATT and are not comparable among various local markets.

(9) As to the problem of dual-pricing, oil exporters should be encouraged to conserve domestic oil consumption through price adjustment. This would both cover the second condition of Article XX(g) on the one hand, and on the other hand, help energy conservation which is a prerequisite for an overall economic reform.

(10) We further suggest that in calculating the so-called lower energy prices in domestic oil exporters markets, the Purchasing Power Parity (PPP) should be used rather than the dollar rate of exchange. This may prove that what is considered dual pricing and subsidized energy prices at local markets are not in fact so.

(11) One of the major barriers to market access for crude oil in general and oil products in particular, is the heavy duties and excise taxes which oil consuming countries impose on oil products ex refineries. In the EU, such taxes have been increased every time the price of crude oil goes down. When the price of oil crashed in 1986 from $28/b to $13/b, European oil taxes went up from $22 to $30 a barrel and continued to reach nearly $70 at present.

(12) Since these excise taxes are equally imposed on both imported and domestic oil, they are not discriminatory and are allowed according to GATT. However, in many consuming countries domestic oil may be negligible or non-existent. Therefore, there may be a future possibility to challenge such taxes on a case by case basis, specially when WTO tries to widen its coverage and extends its rulings further into national economies as expected. This would be the more so if major oil consuming countries go ahead with their plans to impose further taxes under the pretense of environment protection, i.e., the so-called carbon-taxes.

(13) Some oil exporters have tried to own and run refining and distribution facilities in major oil consuming countries in order to avoid barriers to markets imposed by those countries. However, the experience may not be attractive enough since refining margins have been on the down trend over past years. Moreover, stringent environmental restrictions would require intensive investment to upgrade such refineries. We recommend that such investment, if available should be directed to build modern grass-root refineries at home and use collective negotiating power to exports refined products.

3. *Other environmental issues*

Apart from the specific work of the CTE, a number of other trade-environment issues are relevant to oil-exporting countries.

(1) Eco-labeling is an environmental-related issue which has been discussed in the TBT Committee in parallel with those held in CTE and the two committees held a joint meeting on this subject. With regard to eco-labelling, energy policies often employ information-based instruments. The use of such instruments may result in de facto discrimination against some sources of energy, such as fossil fuels. Well designed eco-labelling programs could be effective instruments of environmental policy to develop environmental awareness of consumers and assist them in making informed choice. However, multiplication of eco-labelling schemes with different criteria could affect preferences in domestic markets and limit market access for overseas suppliers. In this respect, it is suggested that transparency should be increased and respect given to the TBT Agreement.

(2) Also related is the question of harmonization of standards. This leads directly to the issues of the development of international standards at the multilateral level with the full participation of all countries concerned (including developing countries), and the avoidance of unilateral imposition and extraterritorial application of domestic law. The TBT Agreement encourages, but does not require, countries to use international standards for product standards and regulations. However, uniform product standards may not be optimal on environmental and political grounds. It thus follows that a balance has to be struck between the advantages that harmonization yields in terms of trade and transparency, and the environmental advantages that flow from allowing legitimate differences in national standards. In general, the objectives of free trade and the desire to set standards at the national level can be reconciled through mutual recognition of standards.

(3) The problem of internalization of environmental costs, and the application of the Polluter Pay Principle is also of significance to oil exporters. The application of the latter suggests a greater and more explicit recognition of the environmental costs associated with energy production and consumption. To the extent that this leads to higher prices for energy consumers, this will lead to a reduction in energy demand. However, this problem could be solved through reducing excise taxes in oil consuming countries instead of burdening ultimate consumers with more.

(4) Subsidies to promote adaptation of existing facilities, such as refineries, to new environmental requirements are permitted under GATT. Subject to certain conditions, up to 20% of the cost of adaptation would be considered a non-actionable subsidy. Oil exporters should have easier access to and transfer of environmentally sound technology. This would help oil industry upgrade its operations and products and avoid unnecessary trade restrictions on these products.

(5) Finally, developing countries should use the CTE negotiation to receive technical and financial assistance from industrialized countries as agreed in FCCC and Kyoto Protocol. This will help the developing world adapt its industries and consumption patterns to the specifications and standards set by these countries. The industrialized countries, on the other hand, must abstain from imposing taxes or arbitrary trade restrictions, such as the carbon taxes, on exports from developing countries under the pretext of environmental protection.

Annex

WTO GENERAL VIEW ON TRADE AND ENVIRONMENT

On 8 October 1999, the WTO has released a detailed report under the title "Trade Liberalization Reinforces The Need For Environmental Cooperation". Since the report reflects the general WTO attitude toward trade and environment, we have summarize it in our detailed study. The following is the report final conclusion which reflects a cooperative attitude:

"In short, trade is really not the issue, nor is economic growth. The issue is how to reinvent environmental polices in an ever more integrated world economy so as to ensure that we live within ecological limits. The way forward, it would seem to us, is to strengthen the mechanisms and institutions for multilateral environmental cooperation, just like countries 50 years ago decided that it was to their benefit to cooperate on trade matters."

TABLES 1-6

TABLE 1. WORLD ENERGY CONSUMPTION AND CARBON EMISSIONS
(*Units = Quadrillion Btu for energy and million metric tons for emission*)

	Energy Consumption				Carbon Emissions			
Region	1990	1996	2010	2020	1990	1996	2010	2020
Industrialized	183	203	240	263	2 850	2 980	3 535	3 907
EE/FSU	74	52	61	70	1 290	842	935	1 024
Developing								
Asia	51	75	128	178	1 065	1 474	2 426	3 377
Middle East	13	17	27	35	229	283	434	555
Africa	9	11	16	19	178	198	270	325
C & S America	14	18	33	48	174	206	418	629
Total Dg	87	121	203	279	1 646	2 161	3 547	4 886
Total World	344	376	504	612	5 786	5 983	8 018	9 817
million toe	8 663	9 461	1 2705	1 5417	Toe = 40 million Btu			
million boe/d	173	189	254	305	Boe = 5.5 million Btu			

TABLE 2. EFFECTS OF KYOTO PROTOCOL ON CARBON EMISSION IN ANNEX 1 COUNTRIES, 2010
Carbon Emission Units = million metric tons (mmt)

	Carbon Emissions			Change of Koyoto		
Region and Country	1990	2010 RC	2010 Kyoto Target	From RC (mmt)	From 1990 %	From RC %
Total Annex 1 Industrialized	2 772	3 408	2 586	-822	-7	-24
U. S.	1 346	1 790	1 252	-538	-7	-30
Canada	126	162	118	-44	-6	-27
Western Europe	936	1 021	862	-160	-8	-16
Japan	274	322	258	-64	-6	-20
Australasia	90	113	97	-16	7	-14
Total EE/FSU	1 290	935	1 309	374	1	40
FSU	991	666	990	324	0	49
EE	299	270	320	50	7	18
Total Annex 1 Countries	4 062	4 344	3 895	-449	-4	-10

TABLE 3. WORLD ENERGY CONSUMPTION, BY REGION & FUEL, REFERENCE CASE
(*Units = Quadrillion British Thermal Units*)

	History		Projection			%Change
Region and Fuel	1990	1996	2010	2015	2020	96-2020
Total Industrialized	182.7	202.5	240.4	251.6	262.8	1.1
Oil	78.7	85.7	100.2	104.5	108.9	1.0
Natural Gas	35.5	44.0	60.8	67.7	73.7	2.2
Coal	37.2	35.8	38.3	39.1	40.0	0.5
Nuclear	16.3	19.8	19.2	17.0	15.5	-1.0
Other	15.0	17.2	21.9	23.3	24.8	1.5
EE/FSU	73.6	52.4	61.0	65.3	69.8	1.2
Oil	21.0	12.0	13.4	13.9	14.4	0.8
Natural Gas	26.0	21.7	30.2	34.0	38.7	2.4
Coal	20.8	13.0	11.1	10.2	9.1	-1.5
Nuclear	2.9	2.8	3.0	3.1	2.7	-0.2
Other	2.8	2.9	3.4	4.1	4.9	2.3
Developing Countries	87.4	120.6	202.8	238.2	279.2	3.6
Oil	35.2	48.1	76.8	89.2	101.3	3.2
Natural Gas	10.5	16.5	39.8	51.9	65.1	5.9
Coal	32.5	43.9	66.6	75.5	89.2	3.0
Nuclear	1.1	1.5	3.0	3.5	3.6	3.6
Other	8.1	10.6	16.5	18.2	20.0	2.7
Total World	343.8	375.5	504.2	555.1	611.8	2.1
Oil	134.9	145.7	190.4	207.5	224.6	1.8
Natural Gas	72.0	82.2	130.8	153.6	177.5	3.3
Coal	90.6	92.8	116.0	124.8	138.3	1.7
Nuclear	20.4	24.1	25.2	23.6	21.7	-0.4
Hydro and Others	25.9	30.7	41.9	45.6	49.7	2.0
Total World (real units)						
Oil (million b/d)	66.0	71.5	93.5	101.8	110.1	1.8
Natural Gas (trillion c/f)	73.0	82.2	129.0	150.9	173.8	3.2
Coal (million short ton)	5263	5167	6381	6845	7568	1.6
Nuclear (billion kWh)	1905	2280	2390	2241	2068	-0.4

TABLE 4. WORLD OIL TRADE, REFERENCE CASE, 1995 AND 2020
(*Units = Million Barrel per Day*)

	Oil Imports by OECD Region				Rest of	Total
Exporting Region	N. America	W. Europe	Asia	Total	World	World
	1995					
OPEC						
Arab Gulf	1.8	3.4	4.2	9.4	6.0	15.4
North Africa	0.3	1.9	00	2.2	0.1	2.3
West Africa	1.0	0.6	0.1	1.7	0.4	2.1
South America	1.6	0.3	00	1.9	0.7	2.6
Indonesia	0.1	00	0.5	0.6	0.1	0.7
Total OPEC	4.8	6.2	4.8	15.8	7.3	23.1
Non-OPEC	4.1	5.5	1.3	10.9	3.1	14.0
Total Oil Imports	8.9	11.7	6.1	26.7	10.4	37.1
	2020					
OPEC						
Arab Gulf	3.4	3.5	5.6	12.5	24.7	37.2
North Africa	0.3	1.9	0.1	2.3	0.3	2.6
West Africa	1.7	0.9	0.3	2.9	0.2	3.1
South America	2.8	0.7	0.1	3.6	0.7	4.3
Indonesia	00	00	0.2	0.2	0.1	0.3
Total OPEC	8.2	7.0	6.3	21.5	26.0	47.5
Non-OPEC	7.0	6.5	0.7	14.2	4.3	18.5
Total Oil Imports	15.2	13.5	7.0	35.7	30.3	66.0

TABLE 5. COMPARISON OF WORLD OIL PRODUCTION FORECASTS
(*Units = Million Barrels per Day*)

Year and Forecaster	OPEC	FSU	Rest of World	Total
2000				
OPEC	29.8	7.5	38.9	76.2
EIA	31.0	7.6	38.0	76.6
DRI	31.0	6.2	37.8	75.0
PEL	30.3	7.5	37.5	75.3
PIRA	28.8	7.1	41.3	77.2
BTA	31.0	7.4	36.8	75.2
2010				
OPEC	39.6	10.0	38.3	87.9
EIA	41.5	10.5	41.2	93.2
DRI	36.2	7.0	50.1	93.3
IEA	43.8	10.2	38.7	92.7
PEL	39.4	10.8	41.1	91.3
PIRA	37.8	10.5	46.5	94.8
BTA	44.4	10.5	39.0	93.9
2020				
OPEC	51.2	10.7	37.1	99.0
EIA	53.5	13.6	42.7	109.8
DRI	47.5	7.5	58.2	113.2
IEA	49.0	9.4	31.5	89.9
BTA	57.1	14.1	43.5	114.7

TABLE 6. KYOTO EFFECTS ON OPEC'S OIL REVENUES AND PRODUCTION
(*Reference Year = 2010*)

Item	Reference	Kyoto Alone	Kyoto OECD	Kyoto Annex I	Kyoto CDM
Annual OPEC revenue					
Discounted at 5% $98 bn	144.2	120.9	121.1	130.0	132.5
OPEC annual losses $bn		-23.3	-23.1	-14.2	-11.7
Oil requirement mb/d :					
OECD	48.5	42.0	41.6	46.2	47.9
FSU/EE	6.6	6.3	6.3	5.2	5.5
Total Annex I	55.2	48.3	47.9	51.4	53.4
Rest of the world	32.7	32.3	32.5	32.6	31.0
Total World					
Oil Production mb/d :	87.9	80.6	80.4	84.0	84.4
OPEC	39.6	32.7	32.4	35.9	36.3
Non-OPEC	48.3	48.0	47.9	48.1	48.1
OPEC market share %	45.1	40.5	40.4	42.7	43.0

IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE STUDY OF THE MINING SECTOR IN JORDAN

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A. THE ENVIRONMENTAL FRAMEWORK IN JORDAN

Jordan is preparing to accede to the WTO, and has concluded a Euro-Med Partnership pact with the EU. The country has ratified most of the major MEAs. The move towards globalization means that policies that were once primarily domestic are becoming increasingly global. Environmental measures are an example: some environmental policies have been adopted in response to countermeasures applied by countries with stringent environmental regulations.

If Jordan chooses not to enforce environmental laws, regulations and standards as strictly as it should, the country might attract export-oriented foreign investment, but the goods produced may not be accepted in countries with stricter standards. Jordan's accession to the WTO and Euro-Med Partnership will require the application of more effective environmental policies in order to enhance exports.

Jordan began to address certain environmental concerns during the 1970s. At that early stage, environmental institutions consisted of small units in different ministries. In 1995, Law No. 12 (the Law for Environmental Protection) was promulgated. It established the General Corporation for Environmental Protection under the Ministry of Municipal and Rural Affairs and the Environment. The Corporation is charged with protecting and enhancing the environment, and is entrusted with formulating environmental policies and drafting the national environmental strategy. The Corporation is also responsible for environmental monitoring and inspection and for setting standards and specifications. The Law for Environmental Protection prohibits among other things the discharge of any polluting or hazardous solid, liquid, gaseous or radioactive materials into Jordan's territorial waters or other water sources; those responsible for polluting activities face a fine or imprisonment. Moreover, industries whose activities entail the release of pollutants into the air are required to install devices to reduce and control emissions of solid particulate matter; those who exceed established limits will also be subject to fines or imprisonment.

Jordan has taken some steps to institutionalize environmental control and protection. However, environmental issues are still dealt with on a very basic level; environmental institutions must be further developed to enable them to address the environmental issues highlighted in MEAs, especially pollution, waste reduction, and resource conservation. (1)

With the exception of certain pockets, air pollution is not a serious problem for Jordan, but it might begin to pose more a threat as the rate of phosphate extraction increases. In response to the Vienna Convention and the MP, Jordan established a cross-sectoral Executive Committee for Ozone to coordinate projects for phasing out ozone depleting substances (ODS), approval of yearly programs and matching projects with the proposed policies. The Jordan country program for phasing out of ODS has proposed a scheme to reduce their use through the adoption of a number of projects within a general strategy aimed at providing support to encourage industry to utilize alternative substances. Jordan has benefited from multilateral allocations within the framework of the MP. The country program includes a timetable (1993-2010) for reducing and taxing ODS, raising public awareness, and regulation of the import of these substances. A number of industries have already shifted towards non-ODS in their processes. Public awareness took various forms. Workshops have been held, pamphlets, newsletters and posters distributed, and TV film and radio programs have been broadcast. There are at least fourteen companies that abide by ozone-friendly programs in Jordan.

B. THE MINING INDUSTRY IN JORDAN

Mining is among the oldest and most important sectors in the Jordanian economy. continues to underpin industrial development in Jordan. It is the economic basis of those regions, mainly rural, where it

takes place. Today mining is of fundamental importance in the economy, particularly in the three major companies producing phosphates, potash, and cement (Table 1). The mining industry in Jordan is one of the main contributors to economic growth and a principal generator of national income, at around 4% of GDP. Concentrated mainly in phosphate, potash, and cement, these three principle mining industries combined account for approximately 25% of total domestic exports (Table 2). In fact, Jordan is one of the world's largest exporters of phosphates, and its potash and cement exports are also significant compared with other regional producers.

TABLE 1. PRODUCTION OF MAJOR JORDANIAN MINING INDUSTRIES 1995-8
(000s tons)

1995	1995	1996	1997	1998
Phosphate	4 984	5 422	5 896	5 927
Potash	1 780	1 766	1 416	1 529
Cement	3 152	2 983	3 055	2 442

Source: Central Bank of Jordan.

TABLE 2. EXPORTS OF MAJOR JORDANIAN MINING INDUSTRIES 1995-8, IN MILLIONS OF JORDAN DINARS
(JD1 = approx $1.4)

	1995	1996	1997	1998
Phosphates	105	127	135	140
Potash	122	126	99	112
Cement	30	41	33	16
Total mining exports	275	291	267	268
Total Jordanian exports	1 005	1 040	1 067	1 046

Source: Central Bank of Jordan

However, activity on this scale has serious consequences for the environment. Mining has destroyed natural habitats, polluted the air, soil and water, and produced waste that can have environmental impacts after mine closure.

Until recently, environmental impacts were not given great importance by mining companies and few regulations needed to be complied with. Although environmental concerns are now increasingly integrated in the planning and operation of mines and in mineral processing, many operations still need to be upgraded in order to meet current expectations of environmental responsibility.

The mining industry is changing rapidly in response to pressures that include globalization of trade in minerals, company restructuring, greater shareholder influence on companies' policies, and improvements in both technology and management. The need to respond to environmental challenges is another powerful force for change. Mining companies are discovering that a good environmental image and track record are an advantage and that a bad reputation is definitely a liability.

The positive image of mining disseminated by the industry, as a source of wealth and employment, has not been challenged by NGOs and others. The extent of environmental and social damage some mining operations can cause has not been widely publicized. Growing public interest in their activities, and the adoption of new regulations, are obliging companies to give more attention to environmental performance. Moreover, particular problems have helped bring about a realization within the industry of need to improve safety everywhere.

Although technological improvements may now be motivated to some extent by the need to present a better environmental image, they are basically carried out in order to improve process efficiency. Energy savings, waste reduction, and other benefits of technological changes nevertheless improve environmental

performance (and a company's environmental image) while raising profitability. The technology now exists to eliminate or reduce most of mining's environmental impacts. However, if progress is to continue to be made, decision-making cannot be based solely on technological or economic considerations.

As in many other industries the focus is changing from merely choosing the right remediation and de-pollution technologies to adopting management approaches that address the entire environment agenda. Environmental management systems (increasingly formalized through ISO 14000 certification) can establish a framework for co-ordinating environmental actions. So far in the mining industry, such management systems have been or are starting to be used in the major companies partly due to their strong international profiles. One of the challenges facing the industry is to ensure that these management concepts are familiar to and used by smaller suppliers, contractors and consultants.

Looking beyond site-specific considerations, there is still insufficient awareness in the industry as a whole of the impacts of its activities on the global environment. Despite the large amounts of energy used in mining, organized industry-wide energy efficiency programs are only just beginning to emerge.

In the last three decades the Jordanian mining sector has developed rapidly. However, the development of some mines has led to certain problems, because the effects of many activities on the natural environment had been neglected in the course of mineral extraction.

Modern technology permits mining on a vast scale with a potential for major disturbance of a whole region e.g. open cast phosphate mining. A major consideration in the development of mineral resources is the restriction it imposes on future land use for such purposes as grazing, agriculture, and forestry.

World-wide experience of land rehabilitation has developed a high level of expertise in this field. In the case of Jordan, rehabilitation will prove more difficult at mine sites located in desert areas.

The impact of mining and on the environment can be summarized as follows:

- Disturbance of plant cover
- Removal of topsoil
- Air pollution
- Environmental health hazards
- Pollution of surface water
- Deterioration and contamination of groundwater
- Infiltration into coastal and marine waters
- Radioactive pollution
- Creation of hazards for construction and building.

Of most significance is the enormous volume of waste generated by the extraction process of phosphate deposits. Other problems are lack of proper planning, the absence of a comprehensive EIA procedure; and poor or non-existent coordination among concerned government departments and also in the private sector.

Water is commonly used in the sorting and enrichment of minerals together with ore dressing . These activities are done close to mines to reduce transport costs. The deposits of waste rock and slurry are a standard feature of mining areas. In Jordan, most mineral deposits occur in regions where water resources are limited.

In Jordan, responsibility and authority in natural resource management are distributed among a number of organizations. However, the management of metallic and non-metallic industrial rocks and energy resources is under one ministry. On the other hand, Jordan's legislature has not yet dealt with environmental protection questions in the mining sector, an important element in any new mining law.

From an environmental perspective, the effects of extraction of minerals and their processing are of particular concern. Open-pit mining can result in land degradation and contribute to desertification if not properly reclaimed and rehabilitated. Mineral processing often involves high levels of emissions that

contribute to global warming. The degree and extent of the environmental impacts depend on local conditions and extend from exploration, extraction and processing of the ores through to post-closure problems with abandoned mines. Environmental impacts also vary depending on the minerals and process involved. The preservation of eco-system, including the protection of pastoral land, habitat and marine life, is also an important consideration in an assessment of the environmental effects of mining.

Each of Jordan's three major mining industries will be discussed below, and the implications for them of the work of the CTE will be examined in Chapter VII.

1. *Cement*

The Jordan Cement Factories Corporation (JCFC) is Jordan' sole cement and clinker company and one of the largest cement producers in the region with a capacity of 4.2 million tons per year (tpy) of cement and 3.6 million tpy of clinker. JCFC was established in 1951, and started production in 1954. JCFC produces three types of cement: Portland ordinary, Portland pozzolana, and sulfate-resistant, and operates five production lines: three at Fuhais, west of Amman, and two at Rashadia, in the south of the country.

The plant in Fuhais began production in 1954 with a semi-wet line of 200 tons per day (tpd) of clinker. The plant has since expanded capacity and currently operates three dry-process kilns et up in 1968, 1979, and 1982, respectively, with rated capacities of 700, 2,400, and 3,000 tpd of clinker, respectively. The main raw materials used in the Fuhais plant are limestone, marl, corrective pozzolana, and sand. Both limestone and marl are located in JCFC's quarries (in the vicinity of the plant), whereas sans pozzolana deposits are 30 km and 160 km away, respectively. the plant produces mainly pozzolana cement with about fifteen percent pozzolana as additive to the clinker. It also produces sulfate resistant cement in lesser quantities. JCFC operates maintenance workshops for mechanical, electrical, and quarrying equipment affairs. In addition, the company has a sewage treatment plant as well as its own fire station.

Significant environmental concerns at Fuhais include the emission of vibrations, which are inevitable when blasts are fired. The other important impact is the dust emissions from quarry operations such as blasting, ripping, and loading.

The Rashadia facility was originally a separate firm, the Southern Cement Company, established in 1981. The plant in Rashadia is situated about 200 km south of Amman and 1,560 meters above sea level. The location is not suitable for bulk export by sea nor for regional export by land, but is in close proximity to necessary raw materials. The government's initial motivation in building the plant was partly to develop the region around Rashadia, and partly to promote exports from Jordan. It started production in 1984 with two identical dry process lines with an effective total capacity of 6,200 tpd of clinker, or about 1.9 million tpy of cement. The original plan was for a one million tpy of cement, later expanded to 1.9 million tpy. The company ran into serious problems in the early 1980s and was merged with Jordan Cement Factories at the end of 1985. It was not until 1990 that the export of Portland cement from Rashadia stated in earnest. The main raw materials used in the Rashadia plant are limestone, shale, and clay. Limestone and shale deposits are about 5 km from the plant, while clay deposits are 13 km away. The Rashadia plant currently produces Ordinary Portland cement with 4-5 % gypsum. Pozzolana deposits close to the plant have been recently identified and, as a result, the company is now considering the production of pozzalana cement.

The Rashadia facility, located in a remote desert area, has environmental protection standards lower than those for plants within more populated and industrialized zones. On the other hand, the plant is located close to the Dana region which is being developed into a national park with tourist attraction facilities.

JCFC also owns and operates a terminal facility in Aqaba that is used for exports. The facility consists of two dome-structure silos with total warehousing capacity of 32,000 tons of cement, a conveying system, as well as a small packing plant. The facility is well equipped and the size of the ships that it can receive is up to 20,000 tons dwt, with loading speed of 6,000-8,000 tpd. Emission of clinker is affecting marine life in the Gulf of Aqaba, including the coral.

Output at Rashadia has grown more rapidly than that at the original Fuhais factory due to a temporary halt in production at the latter in order to undergo environmental and plant upgrading. Given that demand in the Greater Amman area (near Fuhais) is much higher than around Aqaba in the south, the Fuhais facility operates at an 85% capacity utilization rate, compared with Rashadia's 80%. In recent years, over half of the total cement production volume has been produced at the Fuhais facility.

Both the Fuhais and Rashadia facilities use the modern dry process. Considering the age of the kilns in both facilities, the plants' overall condition is good with a maintenance operation of high standards.

Loading is either fully automated (robots carry the cement sacks onto the trucks), or semi-automated, in which sacks are transported on a conveyer belt to the trucks and arranged on board by laborers. As JCFC's entire cement production volume is sold in sacks rather than bulk, the cement retains its high quality when used on sight, although rising paper prices could have an adverse effect on operating margins (as was the case in 1995 when prices jumped by fifty percent). One of JCFC's aims is to sell in bulk and retain quality, possibly through the use of mobile silos. In the medium term, however, sacks will continue to be used.

A project designed to further improve the environment around the Fuheis facility was launched in 1999. The company endeavors to reduce to a minimum the fallout of cement from the factory's chimneys that used to pollute the atmosphere around Fuheis.

Due to the continued improvement in the factory's operations, the company realized in the first six months of 1999 a net profit of JD 12.7 million, compared to JD 7.5 million in the same period of 1998, and boosted cement exports by 51% from 220,000 tons in the first half of 1998 to 335,000 tons over the same period of 1999. Production increases are partly due to privatization of the company in 1998, when the government of Jordan sold around 33% of the company to the Lafarge Group of France, the world's second largest cement producer, in a partial divestiture. The post-privatization shareholding structure effectively limits Jordanian government ownership to around 23% of the company.

The company is currently implementing the necessary procedures for the ISO 14001 certification.

2. *Phosphates*

The Jordan Phosphate Mines Company (JPMC), the sole producer of phosphate in Jordan, is currently the fifth largest producer of phosphate rock in the world. The shareholding structure of the company is such that 69% is effectively owned by the government of Jordan. The Kuwait Investment Corporation also has a significant interest in the company amounting to around 16% of the issued share capital.

JPMC owns and operates three mines in Jordan producing phosphate rock, and a fertilizer and chemicals plant at Aqaba. Nearly ninety percent of the Company's production of phosphate is exported, making Jordan the second largest exporter in the world, after Morocco. JPMC is in the process of expanding its phosphate and fertilizer production through the development of Shidiya mine, which possesses the greatest quantity of higher-quality phosphate reserves in the country.

In addition, the company has entered into several joint ventures for the diversification of its activities and the production of downstream fertilizer products:

The Indo-Jordan Chemicals Company has been established between JPMC, the Southern Petrochemical Industries Corporation of India, and the Arab Investment Company of Saudi Arabia to produce phosphoric acid for export to its Indian partner.

JPMC has also recently finalized negotiations with the Norwegian fertilizer company, Norsk-Hydro, to produce 440.000 tons of phosphoric acid and 1.2 million tons of diammounium phosphate (DAP) and nitrogen phosphate potassium (NPK) at the industrial free zone at Aqaba.

Another joint venture, Nippon-Jordan Fertilizer Company, was established with the Arab Potash Company (APC), the Mitsubishi Conglomerate, Asahi Industries, and a consortium of the Japanese

Federation of Farmers to produce 300,000 tons of packaged fertilizer, exclusively for sale to the Japanese market.

JPMC has also established in Pakistan a joint venture, FFC-Jordan Fertilizer Company, with Fauji Fertilizer Company, to produce 445,000 tons of DAP, 551,000 tons of urea fertilizer, and 460,000 tons of ammonia annually, to cover local growing demand in Pakistan.

In July 1997, JPMC entered the international capital market by issuing $100 million worth of five year floating rate notes priced at 150 bps over LIBOR. The offering was the first international private bond issue in Jordan without government guarantees. Proceeds of the issue were used toward the financing of the development of Shidiya mine. JPMC is perceived to have a low corporate risk, partly because the company is viewed as a quasi-sovereign borrower due to its close relationship with the government and the very high degree of implicit government support.

Phosphate deposits are exposed or located near the surface along a north-south belt, about 200km long and 10-25 km wide, from Russeifa in central Jordan to Hasa in the south. Two other major occurrences are the Shidiya deposit, and near Irbid in northern Jordan.

The phosphate mining industry exerts the greatest and most important influence of any industrial enterprise on the Jordanian environment. Intensive development of phosphate and phosphate products can result in serious practical problems. The main sources of pollution in phosphate mining are:

- The mining complex
- Beneficiation plants
- Ancillary facilities
- Transport and Aqaba port facilities (Emission of phosphate dust is affecting the marine life in the Gulf of Aqaba, and threatening the coral.)

The exploitation of phosphates has several effects on the environment, as follows:

- Dust emission.
- Environmental health hazards from air-borne dust.
- Noise and vibration due to blasting.
- Disposal of overburdens and interwaste
- Solid rejects and reagent from flotation.
- Slime disposal
- Effluents from ancillary facilities and the township
- Transport, loading and unloading of trucks.

Even though there is no real program to monitor exploitation and restoration or to enforce the regulations concerning the mining law and improve the visual impact of the mine waste, JMPC has taken several steps to reduce phosphate dust at the mines and at the port of Aqaba, not only in terms of protecting the environment but also for the recovery of a valuable resource.

The phosphate dust air pollution control measures taken so far are as follows:

- Monitoring of dust levels at Aqaba
- Installation of an improvised phosphate dust recovery system at the dryers in the mines
- Erection of a single superphosphate plant at Abyad mine to utilize in part the recovered phosphate.
- Modification of the feeding system at the fertilizer complex in Aqaba to use the phosphate as a feed during the manufacture of phosphoric acid.
- Constructing special fine phosphate pneumatic conveyer system with silo-truck load out facilities.
- Installation of a choke feeders system at the three ship-loaders.

The chemical industrial complex, which was commissioned in 1982, is located at the Gulf, about twenty kms south of Aqaba city. Effluents from the complex are disposed of as follows:

- Solid: Gypsum produced from phosphoric acid process is the largest in quantity by-product (about 4000 tons/day). It is transported by means of belt conveyors and stacked about two kms east of the plant. Radiation level in the gypsum disposal area is measured once monthly or more often wherever necessary. Dust emissions are controlled by means of cyclones and bag filters, or by smaller deducting units.

- Liquid: All liquid effluents are recycled back to the process. No liquid effluent is discharged to the environment. Underground water in the vicinity of mines and plants is tested once monthly. Sea water intake and discharge temperature is measured once monthly.

- Gaseous: Emissions treatment consists of scrubbing with water and various other substances. Stack emissions for sulfuric acid, phosphoric acid, and aluminum fluoride plants are measured once monthly or more frequently if necessary. Stack emissions for Granulation plant are measured once weekly and whenever necessary. (In addition, the noise level in certain areas is measured once monthly.) (2)

Analysis carried out on different grades of Jordan rock production shows cadmium content of 4-6.5 parts per million (ppm) for Hasa and Abiad, and 6-10 ppm for Shidiya. Arsenic content in Jordan rock is 1.5-3.5 ppm for Hasa and Abiad, and 6-10 ppm for Shidiya. Levels of both toxic elements in Jordan rock are thus among the lowest on the world market. The level of cadmium and arsenic in phosphate rocks from different origins internationally are widely variable at 3-115 ppm for cadmium and 2-40 ppm for arsenic. At current international standards, Jordanian phosphate rock requires no heavy metals removal, hence no additional investment or operation costs is needed.

Desert areas in particular may take a long time to recover from ecological damage. The quantity of soil moved in Jordan by phosphate mining averages over 50 million tpa, which has damaged the aesthetic view of nature and the topsoil. A rough estimate of the cost of corrective measures is close to $100 million.

Phosphate extraction produces dust levels that have been estimated at 600,000 tons per year. The phosphate extraction sites are located in the desert areas of Hasa, Abiad, and Shidiya, where extraction workers and local inhabitants are exposed to the dust; similarly, damage is caused by the dust produced during the phosphate loading process at the port of Aqaba.

3. *Potash*

Jordan produces close to five percent of total world production of potash through the Arab Potash Company (APC). The Jordanian government retains a majority of around 55% of issued share capital. Around 95% of the potash extracted by APC goes to manufacture potash-based fertilizers, with the rest used to enhance other fertilizers, such as those that are phosphate-based. Approximately 98% of the total potash production is exported, of which 75% is exported to South and East Asia, and the remaining 23% going to Western and Arab markets. The final product can either go to the plant product storage warehouse or it can be conveyed to shipping bin from which it can be loaded in to specially made bottom-dump trucks for delivery to the storage warehouse at the port of Aqaba.

Potash occurs in huge quantities dissolved in the Dead Sea and as stratiform layers within the salt dome of the Sea's Lisan Peninsula. At present, the only mineral extracted on a large scale is potash, with sodium chloride (salt) as a by-product. Exports of potash witnessed a decline in 1997 after a period of expansion, due to the depletion of raw material reserves in the solar ponds caused by floods that lowered the density of the Dead Sea brine. APC is currently dealing with the shortages of raw material by expanding salt precipitation areas, which would increase output to 2.4 million tons by the year 2004. In addition APC has established several wholly and partially owned subsidiaries, and has entered into a number of joint ventures to diversify its activities into other Dead Sea salts as follows:

JODICO: Jordan Dead Sea Company (JODICO) is a holding company that was established in 1994 to build, operate, and manage several future ventures to exploit Dead Sea salts and minerals. APC owns 51 % of the JD60 million share capital, and JPMC owns 6 %, with another 10% owned by the Jordan Investment Corporation. The remaining 33% is held local banks and public institutions. JODICO owns a number of subsidiary companies including:

- Jordan Safi Salt Company (JOSSCO): Established to produce industrial salt, salt tablets, and high grade table salt, for local and regional markets.

- Jordan Magnesia Company (JORMAG): Expected to produce 50,000 tons of magnesium oxide per year.

- Jordan Bromide Company: In 1998, JODICO signed a memorandum of understanding with the US bromine company, Albemarle Corporation, to produce 50,000 tpy of bromine, 50,000 tpy of tetrabromo bisphenol, 35,000 tpy of calcium bromide, and 100,000 tpy of chlorine. Annual sales for this project are estimated to exceed $120 million .

- JODICO/Ching Hisang Joint Venture: In 1998, JODICO signed an agreement with Ching Hisang Company of China, for the construction of a $50 million facility to manufacture 40,000 tpy of potassium nitrate.

- APC/Kemira Project: APC signed a contract with Kemira of Finland to manufacture 150, 000 tpy of potassium nitrate, and 75,000 tpy of dicalcium phosphate. Production is due to start in 2000, with annual sales estimated to exceed $65 million.

- AI-Numeira Project: established to extract Dead Sea salts and mud for the distribution to the local cosmetic industry.

Over the years APC has become a key supplier in Asia and the Mediterranean region and has diversified its sales to thirty countries, with main markets including India, China, and Indonesia. Three major specific projects in the pipeline include potassium nitrate and dicalcium phosphate, magnesium metal project, and magnesium chloride flakes project.

In December 1997, APC floated Jordan's first Global Depository Receipts, worth about $350 million. Around 3.7 million shares are currently trading. APC was the first Jordanian company to execute an international equity market transaction and the successful completion of the offering helped raise Jordan's profile in the international investment community.

Six functions within the overall potash recovery process are responsible for the emissions generated by the potash industry:

- combustion of fuel oil in the boilers, driers, trucks, buses, harvesters and other equipment directly related to the project
- NaCl precipitation in the tailings pond
- drying of the final product (KCl)
- fuel storage
- sanitary waste disposal
- transport.

The expansion of APC into other activities is creating new sources of possible environmental hazards. For example, APC is proposing to develop a facility for the production of 150,000 tons per annum of potassium nitrate (NOP) and 75,000 tons per annum of dicalcium phosphate. The facility is to be constructed either at Safi, on the shores of the Dead Sea next to APC's existing potash production plant, or at Aqaba, in the industrial zone, adjacent to APC's existing storage/export facility.

During operation, the plant will produce a variety of waste streams, liquid, solid and gaseous. The composition of these waste streams will be generally as follows:

- Gaseous: including gases from phosphate rock digestion and nitric acid production, principally oxides of nitrogen and fluorine.

- Liquid: including calcium chloride from the ion exchange process, enriched with nitrate, phosphate, fluoride and metals,

- Solid: filter cakes resulting from fluorine removal / DCP production comprising various amounts of calcium, nitrate, phosphate, potassium and fluoride.

The Safi site is located on the shore of the Dead Sea, a unique body of water in world terms with protected environmental status. As well as its unparalleled chemistry, it also supports a unique biological community of algae and bacteria. Species present in the Dead Sea are found nowhere else in the world. There is a major concern with discharging waste into the Dead Sea as it could lead to harmful nutrient enrichment, the elimination of species and ecological imbalance. On environmental grounds, therefore, direct discharge of the liquid effluent into the Dead Sea cannot be supported. Due to the environmental sensitivity of the Dead Sea, treatment of the liquid waste stream or lagooning in lined ponds would be required at this site. Solid waste disposal would be to the mountain area east of the site. As there are no known sources of potable groundwater there, potential contamination of this resource through leaching is not likely to be significant. Wier area impacts from leachate entering the Dead Sea via the groundwater pathway does, however, need to be considered.

Locating the plant at Safi would also require the transport of liquid ammonia in road tankers from Aqaba. Ammonia is a hazardous substance and there are potential risks to people and the environment in the event of an accident involving a tanker. If the Safi site were to be selected, a detailed driver training and emergency response plan would have to be developed to deal with any incident during transit.

On the other hand, the principal environmental sensitivity of the Aqaba area relates to the Red Sea and in particular the coral reef communities. These support a rich fauna and are of significant ecological value; damaging them is illegal under Jordanian law. The Red Sea is also protected by international treaties. Because of this sensitivity, there is a prohibition on the discharge of liquid waste into the Red Sea. As a consequence, the liquid effluent will have to be lagooned at this site. Assuming adequate precautions are taken to ensure that no leachate escapes from the lagoons, impacts on the Red Sea coral communities from liquid waste can be effectively ruled out with this mitigation measure.

The solid waste disposal route wold be to the mountain area east or southeast of the site. No sources of potable groundwater are known in the immediate area of the site and hence possible contamination of potable resources is not a significant consideration. However, care will be needed in the siting of the solid waste dump to ensure that residual contaminants do not leach out and get transported to the sea.

Because of the existing industrialization of the area, local air quality is being affected. There are no available data on background air quality concentrations and so it is not possible to comment on the acceptability or otherwise of existing conditions, relative to air quality health protection criteria. Though the plant is expected to make only a small contribution to overall air pollution levels, the cumulative effect of the existing and new source needs to be considered.

The trade-environment interface and Jordan

The ten items on the CTE agenda listed below each do or will to a greater or lesser extent impinge on trade and environment issues in ESCWA Member states. Some of the more relevant ones will be discussed separately below, with their applicability to the Jordanian case studies in the previous chapter being mentioned as appropriate, keeping in mind that Jordan's application to join the WTO is at an advanced stage and not too far from final acceptance. (1)

Issues in the CTE agenda

Item 1: The relationship between the provisions of the multilateral trading system (MTS) and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements (MEAs); and Item 5: The relationship between the dispute settlement mechanisms in multilateral trading system and MEAs. (2)

With respect to MEAs, Jordan has adhered to a number of them and is generally responding positively to the issue of accession to MEAs. Also positive is the internal position of publicizing and otherwise promoting the relevant MEAs. Though Jordan's MEA membership has not been an issue for the mining sector, a position by the WTO that conflicts with the provision an MEA will other things being equal lead to similar anti-WTO reactions in the country. This is because in Jordan the WTO is viewed as body on par with the Bretton Woods institutions in its relation to national sovereignty and perceived national interest. While Members of the WTO secretariat and others may find this strange, such an attitude nevertheless exists.

Though there is concern that trade measures taken pursuant to MEAs can conceivably conflict with GATT provisions, and that the latter could work to inhibit if not prevent a desirable conclusion of a future MEA, in fact only about 20 of the more than 150 MEAs negotiated to date contain any trade provisions, and no cases of dispute involving them has occurred to date.

Possibilities of conflicts arising in the future over the trade provisions contained in MEAs will be minimized through better coordination between trade and environment officials in national capitals and between different countries. In the case of Jordan, the incomplete or otherwise inadequate provisions in law for mining activities may prove problematic in resolving disputes with parties concerned with the environment and other areas.

In other words, anticipating WTO Membership and disputes with WTO Members, there should be a clear and workable relationship among the different local parties concerning the trade-environment interface.

Item 2: The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions of the MTS

Transparency is also considered to be a highly important focus of CTE discussions under this item. A high degree of transparency is desirable in all cases and would assist in minimizing unintended trade effects and reducing the possibility of protectionist abuse. Nevertheless, concerns have been voiced in the CTE over the adequacy of transparency of economic instruments, measures taken by sub-federal government authorities and by the private sector, and voluntary measures.

Transparency is not an end in itself but a means to build confidence in and provide security and stability to the MTS, to minimize trade restriction and distortion, to assist private sector operators to adjust to changing trade policies, and to prevent trade disputes from arising. Some in the CTE discussions have thus cautioned against excessive ambition at a detailed level in this area, and particularly against over-extending notification requirements.

Ex-ante notification (before adoption and implementation of trade-related measures), such as that required under the terms of the WTO Agreement on Technical Barriers to Trade (TBT), could offer the opportunity for other interested Parties to provide input at the stage of development of new legislation and time for affected producers to adapt to new regulations. At the same time, ex post notification, which is the norm in GATT, when properly complied with, can go a long way towards meeting the objectives described above.

Unfortunately, lack of transparency in economic policymaking and policy implementation in many ESCWA countries, including Jordan, could clash with the spirit of the above ideas on notification etc. Large Jordanian firms, such as the three mining firms considered above, with a strong global bias should be able to deal more easily with the issue of transparency, even when the intention is not necessarily to themselves

engage in transparent procedures. On the other hand, looking for transparency or demanding it in trading partners abroad might be easier for larger firms such as those in Jordan's mining sector.

Item 3a: The relationship between the provisions of the MTS and charges and taxes for environmental purposes

Scope exists under WTO provisions for Member governments of the WTO to apply environmental charges and taxes. This could clearly be done in a positive and constructive fashion in the case of the Jordanian mining sector. The problems that would then arise would concern transparency, and then the danger of transformation of a tax into a revenue-generating measure with less regard for any original environmental considerations.

By contrast, the danger exists that such taxes or charges could be applied to exports of Jordanian mineral goods.

Item 3b: The relationship between the provisions of the MTS and requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labeling and recycling;

New packaging and packaging requirements aimed at protecting the environment are rapidly evolving throughout the world and are being used by an increasing number of countries. In particular, eco-packaging programs are becoming more important environmental policy instruments. Though there are still few such schemes operating in WTO Member states, there are now less doubts about eco-packaging becoming a significant new force in the market. Fast moving changes in the area of ecologically friendly products and an array of new country-specific schemes of eco-packaging are sometimes causing confusion among exporters in developing countries. New measures in this field create rules and regulations for the environmentally friendly products and production methods without seemingly paying much attention to potential difficulties they may cause in developing countries. Eco-packaging is expected to become compulsory in the near future in some developed economies. Such environmental measures may then become a threat to Jordanian mineral goods exports. Even if not explicitly compulsory, eco-packaging may become unavoidable for serious producers.

The trade effects of two types of packaging requirements are also becoming more important internationally and a focus for CTE discussions: requirements that stipulate what kinds of packaging can (or cannot) be used in a particular market, and those that prescribe the recovery, re-use, recycling or disposal of packaging once it has served its original purpose. These may begin to impinge on Jordanian exports of certain mining products.

Increased transparency can help deal with trade concerns regarding eco-packaging schemes/programs while it can also help to meet environmental objectives by providing accurate and comprehensive information to consumers. The CTE felt that an important starting point for WTO Members to address some of the trade concerns raised over eco-packaging schemes/programs is by discussing how to ensure adequate transparency in their preparation, adoption and application, including affording opportunities for participation in their preparation by interested parties from other countries. The transparency provisions contained in the TBT Agreement provide a reference point to the further work of the CTE in enhancing transparency of eco-packaging schemes/programs.

Item 4: The provisions of the MTS with respect to the transparency of trade measures used for environmental purposes and environmental measures that have significant trade effects

As discussed above, transparency minimizes the risk of trade friction and helps ensure that producers and exporters have access to crucial information on trade related environmental measures. However, increasing transparency could lead to additional costs, particularly the establishment of "national inquiry points". Such inquiry points in WTO Member countries are mechanisms to provide information on specific environmental measures. The ones envisaged could inform exporters about the trade restrictions related to

the objectives of environmental preservation. Jordanian firms in general and the big three of the mining industry in particular are in fact becoming more amenable to transparency.

Item 6: The effect of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and the environmental benefits of removing trade restrictions and distortions

The CTE acknowledges that an open, equitable and non-discriminatory MTS and environmental protection are essential to promote sustainable development and that there is a close linkage between poverty and environmental degradation. In this respect, the CTE could contribute to the identification of trade policy actions that can enhance the participation in world trade of developing countries, and in particular the least developed among them, and promote environmental protection in the interest of sustainable development.

There is concern in the CTE that environmental measures and requirements may adversely affect the competitiveness and market access opportunities of developing countries. This could hit the mining sector in Jordan if it slows down its drive to become less polluting, which could happen as a result of a downturn in profits or other adverse conditions. The environmental benefits of trade liberalization, including the removal of trade restrictions and distortions, has been addressed at both a general and sectoral level and in relation to specific trade restrictions. Consequently, improving market access opportunities and preservation of the open, equitable and non-discriminatory nature of the MTS is essential for supporting countries in their efforts to ensure sustainable management of their resources. It has been recognized that trade liberalization including the elimination of trade restrictions and distortions can yield developmental and environmental benefits by facilitating a more efficient allocation and use of resources. At the same time, however, the CTE underlines that implementing appropriate environmental policies determined at the national level as part of sustainable development strategies is needed in order to ensure that these benefits are realized and that trade-induced growth will be sustainable.

In this context, particular attention should be devoted to the environmental benefits of initiatives that could enhance the trade performance of countries which remain only marginal participants in world trade, including lower income commodity-dependent countries, such as Jordan. Further work is needed to ensure that the implementation of environmental measures does not result in disguised restrictions on trade, particularly those that have adverse effects on existing market access opportunities of developing countries.

Item 7: The issue of the export of domestically prohibited goods

The CTE recognizes that serious concerns have been expressed by some developing country Members about the export to them of products whose domestic sale or use is banned or severely restricted because they pose a threat to human, animal or plant life or health or the environment. These Members consider that they do not have sufficient timely information about the characteristics of these products nor the technical or technological capacity to make informed decisions about importing them.

At the same time, progress continues to be made in other inter-governmental organizations in addressing problems created by trade in potentially hazardous or harmful products. The CTE recommends that WTO Members also consider participating in the activities of other organizations which have the relevant expertise for providing technical assistance in this field.

The CTE needs to continue to concentrate on what contribution could be made in this area by the WTO, bearing in mind the need for this work neither to duplicate nor to deflect attention from the work of other specialized inter-governmental fora.

The CTE recognizes the important role that technical assistance and transfer of technology, on mutually agreed terms and conditions, related to domestically-prohibited goods where trade is allowed by the international community can play in this field, both in tackling environmental problems at their source and in helping to avoid unnecessary additional trade restrictions on the products involved. WTO Members should be encouraged to provide technical assistance to other Members, especially developing country Members, particularly the least-developed among them, either bilaterally or through appropriate inter-governmental

organizations, to assist these countries in strengthening their technical capacity to monitor and, where necessary, control imports of domestically prohibited goods.

There is no consensus on the role of the WTO in regulating the trade in DPGs nor on the extent to which DPGs should be regulated from a trade point of view.

The automatic ban on the export of DPGs is far from being a consensual issue at the WTO. The trade in DPGs is mainly regulated by MEAs for a series of products but must be supported by proper notification mechanisms and the capacity of importing countries to evaluate the risk that imported DPGs poses on their environment. This capacity in Jordan is not considered to be strong enough.

Item 8: The agreement on Trade-Related Intellectual Property Rights

The Intellectual Property Rights regime represented by the WTO's TRIPs Agreement poses many questions in terms of the dissemination of ESTs to developing countries.

The stresses that CTE the TRIPs Agreement has an essential role in facilitating such dissemination. However, the CTE has indicated that more work is required to help develop a common appreciation of the relationship of the relevant provisions of the TRIPs Agreement to the protection of the environment and the promotion of sustainable development, and whether and how, in comparison to other factors, these provisions relate, in particular, to the following issues: facilitating the generation of ESTs; and facilitating the access to and transfer and dissemination of ESTs.

Item 9: The General Agreement on Trade in Services

Further work in the CTE on this item is necessary before drawing any conclusions on the relationship between services trade and the environment, or on the relevance of inter-governmental agreements on the environment and their relationship to the GATS in the context of sustainable development. Discussions in the CTE remain exploratory at this stage.

Item 10 Appropriate arrangements for relations with intergovernmental and non-governmental organizations referred to in Article V of the WTO

The CTE initially extended observer status to inter-governmental organizations (IGOs) such as the UN Conference on Trade and Development (UNCTAD), the World Bank, the International Monetary Fund (IMF), the UN Environment Program (UNEP), UN Development Program (UNDP), the Food and Agriculture Organization (FAO), the International Trade Center (ITC), the Organization for Economic Cooperation and Development (OECD), and the European Free Trade Association (EFTA). The CTE has currently granted observer status to additional intergovernmental organizations, including the African, Caribbean and Pacific Group of States (ACP Group), Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), International Organization for Standardization (ISO), International Plant Genetic Resources Institute (IPGRI), Latin American Economic System (SELA), UN Industrial Development Organization (UNIDO), World Customs Organization (WCO), and World Intellectual Property Organization (WIPO).

In addition to links with IGOs, the Decisions of the WTO General Council of 18 July 1996 on "Procedures for the circulation and derestriction of WTO documents" and on "Guidelines for arrangements on relations with non-governmental organizations", WTO Members have agreed to improve public access to WTO documentation and to develop communication with NGOs. In recent years, the Secretariat has organized symposia on important WTO matters for representatives of NGOs and Member countries.

The WTO Secretariat has laid the foundations for providing timely public access to the proceedings of the CTE through issuing periodically its Trade and Environment Bulletin and for enhancing its contacts with NGOs concerned with matters related to those of the CTE, inter alia through the organization of informal meetings with NGOs. The CTE recommends that the Secretariat continue its interaction with NGOs, which will contribute to the accuracy and richness of the public debate on trade and environment.

Following the Decision of the General Council of 18 July 1996 on "Guidelines for observer status for international intergovernmental organizations in the WTO", the CTE has agreed to extend observer status on a permanent basis to those intergovernmental organizations which previously participated as observers on an ad hoc basis at CTE meetings. The CTE has extended observer status to all those intergovernmental organizations which have so requested, and the possibility exists on the basis of the General Council's Decision to consider future requests from other relevant intergovernmental organizations, including MEAs. Observer status of relevant MEAs in WTO bodies, as appropriate, can play a positive role in creating clearer appreciation of the mutually supportive role of trade and environmental policies. Requests from the appropriate bodies of MEAs for observer status should be considered in this light.

It is important to note that the CTE was established partly in response to the concerns of environmentalist NGOs regarding the impact of increased free trade on the environment. However, most international NGOs are based in wealthy states. The EU and the US – home to many NGOs concerned wit the environment -- are generally far ahead of the developing world in environmental standards. Not surprisingly, NGO platforms often draw suspicion from poorer trading partners, who tend to see Western idealism as a mask for protectionism. Environmental questions are further muddled as NGOs try to use trade restrictions to force trading partners to comply with unrelated domestic laws or international agreements.

Meanwhile, the role of NGOs in the ESCWA region is mounting, especially in the area of the environment. Environmental NGOs exist in one form or another in Jordan, and a handful of Amman-based civil sector organizations working in the environmental field are becoming quite active. The issue of NGO interaction with trade and environment issues is becoming a more important one on the eve of the Seattle Ministerial meeting of the WTO in November-December 1999, as will be seen in Section B below.

B. THE TRADE-ENVIRONMENT POSITION OF MAJOR TRADING ECONOMIES: THE CASE OF THE US

The US is an important ally of Jordan with whom trade is being encouraged. Although US imports from Jordan are still small, and those of the mining sector are negligible, US economic relations with Jordan are becoming very important at many levels. This trend is likely to continue over the next few years.

Isolationism continues to resist US participation in the WTO, "while traditional allies like Europe balk at what they see as US unilateralist arrogance in settling disputes." (3) There is concern in the US that environmental issues are encroaching on the trade debate, letting their "interest-group patrons hijack" (4) the country's trade agenda.

One of the greatest obstacles to a liberal US trade policy is the protectionist response to the ballooning trade deficit. Robust US growth especially relative to Asia has driven the trade deficit unprecedented levels. Although the rate of overall US growth will probably decelerate later this year, relatively high demand for foreign goods will force the country's trade deficit to expand even further. The 1998 trade deficit set a record at $248 billion and will likely exceed $300 billion in 1999. In turn, growing trade imbalances amid slowing growth could affect US political responses to the WTO, especially if the US economy cools down enough to drive up unemployment. Past behavior suggests that the growing US trade deficit will spark increasing trade policy activism. US protectionist pressures are hardly new. However, the WTO's strengthened dispute-settlement mechanism has reduced US ability to retaliate unilaterally, and has also provided a fairer playing field for other countries.

New participants besides NGOs are jumping into the US trade-environment policy debate: some local and state governments, as well as quasi-governmental institutions such as public pension funds, have applied economic sanctions or boycotts of their own against foreign countries. Environmental protection issues have emerged as hot political questions.

US policymakers can no longer avoid the heated controversies over the environment. The debate should now center around a basic question: Will provisions addressing these new issues encourage improvements abroad or just promote protectionism against imports from developing countries?

Unilateralism is rearing its head as US import restrictions that apply US domestic environments wrap themselves now in a green flag, and interagency trade bodies within the government now include the Environmental Protection Agency and the National Oceanic and Atmospheric Administration, who have a say not only in environment-related trade policies but in the whole panoply of trade issues.

By their very nature, these issues are non quantifiable, nonrational, and not particularly easy to negotiate. In such instances, litigation has brought the US into conflict with its international trade obligations.

The US Trade Representative (USTR) will publish an assessment of US Membership in the WTO next March as the capstone of its five year trade policy review. Following the report, Congress has the right to vote on ending WTO Membership. Although this remains unlikely for now, growing political pressure against the WTO is certain to mount if Seattle backfires.

The US government remains ill equipped to tackle the protectionist challenge head-on. Trade policymaking has traditionally rested in the executive branch of the government with the USTR a small and relatively weak office. This means that the government sets priorities according to noneconomic considerations, thereby increasing the political influence of special interests. The USTR merely serves as the negotiating arm of the executive branch and is not responsible for developing any overarching trade strategy. A wide gap looms between US ideas about the new agenda and those of the rest of the world.

The marginalizing of environmentalists would run counter to deeper trends in the US that recognize environmental issues. For example, at the WTO's 2nd Ministerial Conference in May 1998, President Clinton underlined that "Modern trade agreements extend into spheres of government activity that touch peoples lives in many ways, including food safety, environmental controls on dangerous chemicals and many others. Therefore the growth of public interest in trade negotiations is a natural outgrowth of the evolution of such negotiations." (5) The US delegate at the WTO's High-Level Symposium on Trade and Development 17-18 March 1999 added that "It is appropriate that the WTO explore various types of cooperation with the NGO community" (6) as preparations are made for the Ministerial meeting in Seattle.

The impact of these factors on ESCWA region non-oil exports to the US in general and those of Jordan in particular may be considerable as and when these rise from their current low levels. However, this is unlikely to have a direct effect on Jordanian mining exports, which go mainly to Eastern Hemisphere markets. On the other hand, the impact on investment in the Jordanian mining sector could be serious, and there the US has been playing an increasingly important role.

CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

There is no consensus in the CTE or elsewhere in IGO fora on how to proceed on trade and environment issues. Thus, it seems likely that, even if trade and environment were to become part of the agenda for the new round, this may be more of a continuation of the open-ended study program which could potentially lead to some clarifications of WTO rules. Although some kind of inter-governmental agreement may be desirable, it is not clear whether this should be in the specialized MEAs or in the WTO, which is becoming increasingly charged with new issues beyond its traditional competence. (1)

Though inconclusive on many counts, the work of the CTE in the past few years shows more than ever that trade and environmental policies cannot be isolated from each other. On the other hand, these policies also cannot be separated from the impacts of international debt, the need to alleviate poverty, the imperative to transfer technology or the general need to enhance the capacity of developing countries to face the challenges of sustainable development. States of the ESCWA region still suffering from major environmental weaknesses and at early stages of opening up their economies to globalization cannot be expected to rapidly develop their trade and environment systems regardless of the short-run consequences. To quickly impose the most sophisticated types of environmental care and protection and to rapidly liberalize trade rules may exacerbate rather than solve problems in the short term.

Transparency is of key concern to exporters. Some emerging environmental policy instruments may lack provisions regarding notification and possibilities for consultation with foreign producers. Access to information in the case instruments such as voluntary industry agreements and public procurement guidelines may sometimes be difficult for foreign producers. The relatively strong reliance on voluntary measures may also affect transparency of and accountability for emerging environmental policy instruments.

Transparency and consultation in the formulation of environmental policies are fundamental. In this area, it would be helpful to consider mechanisms for enhancing the participation of developing countries in the formulation of such new measures so that concerns regarding quality and responsibility were taken into account.

For extractive industries and their downstream operation in general throughout the ESCWA region, and in particular in the key mining industries of Jordan, the threat of environmental measures taken in their export markets is becoming greater. One example is that the acceptable level of heavy metals in fertilizers and other substances is becoming of vital importance recently in Western markets. In many of the latter, more strict regulations and legislation are being implemented. Though this is not yet an issue for Jordanian phosphates for example, such considerations could become more important if

Disposal of chemical wastes from Jordanian mining industries is now of greater concern than before, regionally and internationally. However, here is a lack of information regarding the type and quantity of the wastes produced and therefore, it is difficult to formulate appropriate management policies and choose the right technology to deal with the problem. In general, effective hazardous waste management requires an integrated policy encompassing generation, collection, transportation, storage, treatment and final disposal operations.

It is unlikely that a potentially profitable mineral extraction operation would be stopped in a developing country with limited resources, such as Jordan, on purely environmental grounds that were not absolutely crucial. However, export of the output of these operations will come under more pressure and difficulty as a result of the expansion of interests in trade related environmental measures.

Some regional mining personnel and government officials have difficulty locating the practical guidance they need to make day-to-day decisions. Truly global, open and neutral information systems are hard to find. At the same time, many of those involved in mining in the ESCWA region both directly and in

professional institutions need to understand that global issues such as climate change and biodiversity require a coordinated response from their industry.

B. RECOMMENDATIONS

1. Both government and NGOs in Jordan need to strengthen their permanent institutional structures and sustainable financial resources if they are to participate effectively in formulation of environmental policies, action plans and their implementation.

2. Environmental regulations applied by the commercial partners of Jordan to its major export goods should be examined with regard to their potential effects on export prospects and their conformity with trade agreements. Jordan's government should undertake special efforts to ensure that the importance of this issue is fully understood by trade officials in international negotiations and by those involved in determining domestic policies aimed at export-oriented industries.

3. There is a need for better policy co-ordination at the national level. This requires co-ordination between different ministries as well as between the government and the private sector. NGOs have a key role to play here, and they are starting to assume it in Jordan. This work has helped to improve the understanding of the issues and may in so doing have helped to lower the temperature of the debate between governments and between NGOs and the WTO. Trade associations and professional societies also have an important role to play; they should be encouraged to become more involved in environmental issues and to help members raise environmental awareness.

4. Links -- already strong in Jordan -- should be further strengthened with the IGOs concerned with the environment and industry. Developments promoted and catalyzed by specialized agencies such as UNIDO and UNEP must be closely monitored.

5. Exporters must ensure that their products will not be hindered by prohibition or restriction of the consumption of similar goods in their export markets or by an MEA. They must also strive to acquire the scientific and technical capability to adapt their products to new regulations in their export markets. Exporters and their governments should constantly monitor the implementation in their export markets of new trade-related environmental measures and be able to evaluate their consistency with WTO provisions. This calls for the development of expertise in WTO rights and obligations and a capacity to link it to their export industries.

6. Mining companies in Jordan must be prepared to enter into consultative partnerships and to work with governments, and with international and local NGOs and other bodies that are addressing environmental and social issues. They may thus need to establish links with interest groups that may have been perceived as unsympathetic or hostile to their industry.

7. Bodies concerned with the development of industry in the ESCWA member countries should disseminate and update information on standard methods of analysis in concordance with ISO guidelines. In particular, it is expected that the ISO 14001 standard will play an important role in international trade. This implies a greater effort by ESCWA countries to integrate environmental management into business policies in order to ensure continuous improvement of environmental performance. Participation in ISO 14000 provides a basis for certification of a firm's EMS, which may give greater credibility with financial institutions, insurance companies, regulators and consumers.

The records for 1997 for the ESCWA countries showed the following numbers of ISO 14000 certified companies: Egypt 7; UAE 4; Oman 1; and Saudi Arabia 1. By end-1998 the number of ISO 14000 certified companies in Egypt had increased to fifteen, (3) and three in Jordan had obtained certification.

THE IMPLICATIONS OF THE WTO TRADE AND ENVIRONMENT COMMITTEE RECOMMENDATIONS AND ISSUES UNDER NEGOTIATIONS ON TRADE IN THE ESCWA MEMBER COUNTRIES: THE CASE OF THE AGRO-FOOD INDUSTRY IN LEBANON

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The present study aims at understanding the work of the Committee on Trade and Environment (CTE) established by the WTO and assess in a preliminary fashion, its impacts on the present situation of the agro-food industrial sector in Lebanon, as well as its evolution in the near future.

The 10 items on the CTE's agenda are analysed and a synthesis of the content of each item is presented. General impacts on government policies as well as on market access opportunities are underlined. In addition, we realised that it was somewhat incomplete to understand the implications of the WTO/CTE discussions without stressing on the scope and role in international trade of the agreement on the 'Sanitary and Phytosanitary' (SPS) Measures and the 'Technical Barriers to Trade' (TBT), as well as of the food standards established by the Codex Alimentarius Committee (CAC).). An analytical synthesis of these topics is also conducted.

We then look specifically at the Lebanese agro-food sector and rethink accordingly the general impacts underlined above, taking into consideration the key factors related to the industry (such as the source of raw materials, the structure of the industry, production techniques and practices, the level industrial developments, the distribution of export markets, etc.). This section will identify challenges to the agro-food industry in Lebanon and will be concluded with preliminary recommendations addressed for both the public and the private sectors.

The CTE work programme and agenda

CTE's work was mostly discussions and clarifications of the items proposed and reached very few specific recommendations for the modification of the WTO rules. In brief, the CTE's role is to discuss issues relevant to trade and environment and examine what contribution the WTO might make to integrate environmental concerns in the international trade regime and support the goal of sustainable development.

In January 1995, the WTO was established by a 'General Agreement'[9] and was supplemented by several more detailed agreements, including the Agreement on Textiles and Clothing (ATC)[10] and the Agreement on Technical Barriers to Trade (the 'TBT' Agreement)[11], that are essential to understand the evolution of trade in textiles including the provisions destined to prevent governments and actors in international trade from using measures primarily destined to protect consumers as disguised barriers to trade. These two agreements are of a particular concern to the trade and environment debate in textiles and textile products.

The SPS Agreement

The SPS Agreement acknowledges the right of governments to take health and environment protective measures, while subjecting those to the WTO principles of national treatment and non-discrimination. It also links these measures to sound scientific evidence to justify restrictions on the trade of a specific good.

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[9] See http://www.wto.org/wto/legal/finalact.htm

[10] The Agreement on Textile and Clothing, http://www.wto.org/wto/goods/textiles.htm,

[11] Not directly available on line but a copy can be downloaded from: http://www.wto.org/wto/legal/17-tbt.wp5

The TBT Agreement

The Technical Barriers to Trade Agreement provides for situations which are not covered by the SPS Agreement and ensures that technical regulations and standards, including packaging, marking and labelling requirements and conformity assessments are not used deliberately or non-deliberately as disguised barriers to trade.

The role of Codex Standards in the trade and environment debate

The Codex Alimentarius is the international body established by the Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO) in 1962 to develop international food standards. Its official recognition came much later from the World Trade Organisation in 1995. The WTO Agreements consider that the standards developed by Codex should be regarded as providing countries with necessary protection in regards to the safety of food products.

Membership to the CAC is open to any country, which is a member of the FAO or WHO and currently numbers 162. Membership confers no obligations on countries (including that of implementing the Codex, in part or on its entirety) but enables them to contribute to the development of standards and to have their point of view taken into account.

Since the adoption of the SPS Agreement, the profile of the Codex Alimentarius has been significantly raised; "Since 1995 the Codex Alimentarius has recognised that the enhanced status given to it by the World Trade Organisation must be met by improved procedures and by the greater use of science and of risk assessment techniques. Both of these are specifically required under the SPS Agreement." The 162 members of the CAC are not legally-bound to accept Codex standards as such. These standards are to be used as a basis for common standards and as the case of the EU ban on hormones demonstrated, governments have in principle the right to establish stricter standards than those of Codex, provided they are based on sound scientific evidence and do not cause unnecessary discrimination to trade.

In harmony with the SPS and TBT agreements, Codex rules make explicit the use of science and other factors (in particular labelling) as a basis in its decision-making mechanism. In 1997, further stress was made on the role of risk assessment –scientific risk assessment techniques developed by the CAC- particularly that there are important provisions in the SPS agreement (Article 5.1) on that matter: "Health and safety aspects of Codex decisions and recommendations should be based on a risk assessment, as appropriate to the circumstances." and "Food safety risk assessment should be soundly based on science, should incorporate the four steps of the risk assessment process, and should be documented in a transparent manner."

As a result the adoption of the Codex Alimentarius by the SPS Agreement members of the WTO (i.e. most countries of Codex) are obliged in effect to consider Codex standards as the basis for their national controls when dealing with international trade issues. The current annual volume of world food trade ranging between US$300 billion and $400 billion (CAC figures), this trade is of a factor primary importance for the stability of the international trade regime.

The EU being a major commercial partner of the Lebanese agro-food industry, both in terms of provider of input and of export market, it is important to note that several EU directives refer to the Codex Alimentarius as the basis for their requirements. Although the Arab Free Trade Area (AFTA), recognises the principles of the WTO and has provisions to allow member governments from excluding specific products from intra-regional trade on the basis of religious, national security, health and environmental reasons, it does not mention the Codex specifically as a reference the establishment of standards.

Each Codex area of work is presented in a document outlining the aim of the Committee and its action guidelines, principles or procedures. These are: Food labelling; Inspection and certification; Food Hygiene; Ethics in international food trade

The role of Codex in the multilateral trade system is likely to continue expanding and several new trends and factors will impact its activities:

- Scientific developments in fields relating to food;
- Changing attitudes of consumers;
- New approaches to food control;
- Changing perceptions of government and food industry responsibilities;
- Changing food quality and safety concepts.[12]

In major cases of agro-food trade disputes, Codex standards have been officially used as a benchmark on which WTO rulings are based. This reinforces the legitimacy of Codex's work as well as the credibility of its scientific approach.

The analysis of the CTE programme, the EPS & TBT Agreements, the role of Codex and its evolution, and particularly the beef Hormone ban case, all indicate that a series of constraints is placed on the implementation of national health and environment protection policies and measures.

These constraints are more complex than a simple abidance by the basic principles of the multilateral trade system, i.e. national treatment, non-discrimination and the most favoured nation clause, which were at the basis of the interpretation of previous cases in trade and environment, such as the shrimps & sea turtles and the Tuna/Dolphin cases.

The constraints based on policy developments can be summarised as follows : Sovereignty "Restricted"; Burden of Proof; Deference to International Standards; WTO Determines What An "Appropriate" Risk Assessment Is; No Environmental or Health Exception to WTO Rules in the SPS Agreement

Profile of the agro-food industry in Lebanon and key issues

In Lebanon, the Food and Beverage industry as a whole accounts for 4,456 firms.[13] According to some Lebanese agro-food industrialists[14], the size of the market of canned food is about 50 million cans of all sizes, produced by 5 main companies. The agro-food sector is very concentrated, 6% of firms contribute to 55% of total production and the 94% remaining contribute to 45% of the production and the largest market shares belong to the above mentioned 5 firms, which employ more than 50 persons. The remaining 97% of the firms are mostly family-owned and small in size as they employ less than 50 employees, and often less than 10. Agro-food firms represent 20% of total industrial enterprises.[15] The food and beverage sub-sector represents 24% of industrial production while employing between 22,107 and 30,670 workers[16], representing approximately between the fifth and the quarter of the workers of the industrial sector. The agro-food industry has been experiencing high growth rates which has reached approximately 46% from 1993 to 1996, attributed to the post-war economic recovery.

Since 1996, the growth rate has stabilised. A series of obstacles related to high import duties on inputs, high-cost of transportation, inadequate labour conditions, regulatory obstacles or lack of adequate technology, are hindering the growth of the industry which still has to find a specific market niche for its manufactured goods. These factors will be detailed below.

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[12] Codex and the Future, Codex Alimentarius Commission

[13] USAID/Lebanon SRI and LAU, p.37.

[14] Al Iktissad Wal Aamal, April 98, p.36.

[15] The Lebanon Report: number 3 fall 1998, p.10.

[16] Depending on the source of information. Respectively by the Ministry of Industry (1994 Industrial census) and USAID/Lebanon SRI and LAU, p.37.

In 1995 agro-food imports represented about 10% of total imports. The exports of canned food are about 50% of the total production

Only 5% on average of the raw material used in the agro food business is supplied from Lebanon, the remaining is imported. 60% of Lebanese agro-food and agricultural products including those destined to final consumption are from the European Union. The major destination for Lebanese agro-food products is the UAE and Saudi-Arabia. Exports to Syria have declined by 70% in the recent years, which is attributed to the fact that Syria has developed its own agro-food industry.

It is Lebanon's stated objective to develop trade with neighbouring Arab countries, where Lebanese businesses have traditionally thrived, as well as with its first trading partner, the European Union. The major hurdle to the adoption and implementation of free trade agreements in Lebanon is that 50% of the Government's total revenues are derived from customs tariffs. To date, Lebanon has signed bilateral trade liberalisation agreements with Syria, Egypt and Kuwait, all three agreements being within the framework of the Arab free trade agreement, implemented since January 1998. Lebanon is also in the final stages of negotiations with the EU for the signature of the Euro-Med Association Agreement. It has recently been accepted as an observing member to the WTO.

Seven major factors affect the competitiveness and growth of the agro-food sector in Lebanon, these are: Local agricultural inputs; Operating costs and distribution of local products; Local packaging; Industry structure and production factors; The role of Government; Exports; Standards and Quality.

Codex standards are not mandatory for products. The only regulations to be applied are the Lebanese standards derived from the Codex. Gradually, the Lebanese equivalent of the Codex is being introduced. In order to export to foreign markets, the Codex can be used as a guideline. However most countries might have their own regulations that must be complied with.

In general, the main pollution concerns of agro-food production are water usage and waste water generation. With the implementation of free trade agreements and the gradual rationalisation of the Lebanese economy, pressures will increase on the agriculture and agro-food production sectors to reflect the price of the input in their final products (by anti-dumping measures).

Challenges and recommendations to the agro-food industry in Lebanon

To the industry

The agro-food industry has to deal with a commercial challenge to increase its competitiveness in the light of the integration of Lebanon into the global economy. Several free trade agreements signed or being implemented by Lebanon with neighbouring countries will put more pressure on agro-food industrialists, first and foremost resulting from international competition both on the local and export markets. Briefly, the industrialists will have to:

- Improve their productivity and competitiveness in order to maintain their market shares in local and international markets. This has to be done through a rationalisation of production, a more efficient use of resources and a control of the growth of operating costs;

- Secure a better access to capital and investment has to be secured whether through local sources (in partnership with the banking sector and support from the government in terms of policy) or through international sources.

More specific to the trade and environment debate, industrialists have to deal with an increasingly complex framework of regulations and standards in international markets relating to agro-food products and in some cases, to agro-food PPMs. To date, very few cases of market regulatory limitations to Lebanese products have been notified but with the increasing integration of markets globally and regionally (the Lebanese markets but also the export markets of the Lebanese industry in the Gulf and other countries), and

the adoption of the Codex standards as a legal reference by the WTO for agro-food trade, product standards and regulations will definitely have a considerable impact on Lebanese agro-food production.

Industrialists are faced with a series of challenges and obligations resulting from the signature by the government of multilateral environmental agreements. The obligations resulting from the Barcelona Convention and its associated protocols for instance, have been completely overlooked by the Lebanese authorities and industrialists, mostly because this Convention has been non-biding to date. The strengthening of international environmental protection movements are pushing developed states to deal more seriously with transboundary environmental issues and might reverse the relatively laxist stance they have adopted to date. The obligations resulting from the Convention (and other MEAs by the same token) might therefore be increasingly pursued and eventually linked to the co-operation policies between developed and developing nations. The implementation of these MEAs and associated obligations will then burdensome on industrialists and threaten their future prospects. The questions that industrialists need to ask in this regard are: what are the MEAs with trade-related measures that might affect trade in agro-food products in the coming years? Is any measure directly related to the production and market access of a product currently or potentially exported from Lebanon? What are the WTO provisions regarding that product and what are the solutions to preserve market access? Is there a case where these standards have been successfully challenged in the WTO by other exporting economies (such as in Asia or the US) and on what basis?

In addition to international obligations resulting from MEAs, the implementation of national legislation (currently pending in Parliament for political reasons) will put pressure on industrialists to internalise environmental costs in their total production costs. These costs could result from either specific PPMs or from the introduction of new product standards. In concrete terms, this could include environmental impact assessments, the rationalisation of the use of resources, particularly of water, the installation of waste water treatment plants, the modification of the inputs or the production process in order to meet specific standards, etc.

The removal of agricultural subsidies (the hottest topic in the Millennium Round and object of the CTE discussions) and liberalisation of trade in agro-food products would seriously endanger the very existence of Lebanese agriculture (known to be non-competitive). This would threaten the potential integration it might have with the agro-food sector (50% of raw material for canned food is from local sources) and thus endanger the quality –actual and potential - of Lebanese agro-food products.

On the other hand, and in the light of the increasing complexity of regulations and standards, the import of agro-food final products as well as intermediary and raw materials is not done according to a comprehensive and clear regulatory framework, as there are no effective monitoring and control of the import of raw materials, DPGs or GMOs, and import standards are not yet available (including a systematic MRLs) for all products. As the output of the industry might be affected by the quality of the products used for its production, questions regarding this issue are: Are inputs to the Lebanese industry (from local sources and more particularly from foreign and neighbouring sources) subject to standards in export markets, such as MRLs and other bans on specific contents in terms of veterinary drugs, pesticides or fertilisers? Are any current practices of the industry in contradiction with those being introduced in export markets? Subsequently, are there inputs and practices in agriculture or the input procurement strategies that need to be modified and eventually regulated?

Also with regards to inputs, the application of biotechnology throughout the food chain, and more specifically on primary products used as raw materials in agro-food production, poses a serious challenge to the Lebanese industry. Biotechnological innovations are often controversial (such as the cases of GMOs, the use of hormones and other veterinary drugs, etc) and could have considerable impacts on production and trade, and in some cases, on public safety (such as the case of the mad cow disease, resulting from the introduction in the food-chain of new types of nutrients). In that respect, the Lebanese agro-food industry must ask the following questions: are any input to the industry subject to these new trends? Are there any opportunities to increase the efficiency by relying on accessible innovations without compromising current and potential market access (particularly in the EU)?

Also related to product standards is the emerging issue of eco-labelling, dealt with distinctively in Item 3(B) of the CTE programme. As discussed in Section II, Lebanese products are typically ethnic products that are not in direct competition with those of other major agro-food manufacturers in developed economies (usually where eco-labelling schemes are introduced). Nonetheless a specific eco-label can affect –even incidentally, if it concerns an input to the final product- a non-labelled Lebanese product (on the use of GMOs or pesticides in raw materials or hormone beef for instance) and give consumers a negative perception of it. Questions regarding this issue are: Are there any eco-label likely to affect Lebanese products? What are they based on (product v/s non product criteria) their requirements and how can industrialists adjust?

To the public sector

As presented throughout this report, the issues related to trade and environment in general, and particularly agro-food are extremely complex and might imply sensitive choices and even constraints on national policy-making, in terms of limitations to economic development policies or environmental protection options. The implementation of WTO agreements, and more specifically the TBT and SPS Agreements will limit the option, or at least the scope of actions, traditionally undertaken by the government to protect consumer preferences and the specifications of national industries, and to provide incentives to the latter to improve their environmental performances by preserving environmental resources and internalising their cost in the production process.

Lebanese policy-makers and negotiators are faced with very complex issues related to market access and economic and environmental policy choices. Entering into free trade arrangements with the EU and with the rest of the world- through the participation to the WTO- has important policy implications for Lebanon, that will have to develop implementation of follow-up mechanisms. Failure to effectively implement these obligations will result in trade sanctions usually attached to these agreements. The current participation of Lebanon as an observer to the WTO will allow the government to grasp the complex reality of international trade, familiarise with the limitations to national sovereignty and understand the dynamic behind policies related to trade and environment in the developed economies and with the rights and obligations that the multilateral system can provide, as well as to identify obligations such as notification mechanisms, etc.

In addition, free trade agreements will have profound effects on the structure and the competitiveness of the economy and on the survival or decline of some sectors in it. The case of jams (ref. Case study on agro-food) had demonstrated the uncertainty that industrialists themselves feel regarding the competitiveness and the prospects of their industry in the light of free trade. In this context, the introduction of the Lebanese-Syrian free trade agreements and the Arab free trade agreement as a whole were conducted hastily, without thorough examination of their impacts on the agricultural and industrial sectors, and with minimal consultations with the private sector. Industrialists expressed their worries in one-on-one interviews as well as during several seminars involving industry stakeholders in Beirut throughout the year.

The same applies for MEAs. Past experience, such as the case of the Barcelona Convention, shows that Lebanon (following the example of several developed and developed Mediterranean countries), has not always taken into account recommendations and provisions of the agreements, particularly when those were not legally binding (see the Case Study on Trade and Environment quoted earlier in this text). Furthermore, some MEAs contain important trade-related measures that could potentially have an impact on Lebanese exports, as discussed in the analysis of the CTE programme above. The analysis of the impacts of these measures in terms of input of raw materials, of market access to Lebanese agro-food products and agricultural and industrial practices (Production and Process Methods), is important to avoid potential crisis in the industry.

The implementation of environmental legislation with an effective and comprehensive policy to complement industrial development is the best method to pursue and support a sustainable development of developing economies. The Lebanese environmental law is still pending in Parliament for ratification and Lebanon has no policies to preserve environmental resources in the wake of the post-war reconstruction effort.

Globalisation, the complexity of the agro-food industry and the increasing sensitivity and scope of public health and safety issues (such as the cases of mad cow disease in Europe, the Coca-Cola contamination in Belgium, etc.) has incited governments in developed economies to intervene actively in safeguarding the quality of the food production and distribution through, among other means, the establishment of standards for product approval and consumption. Furthermore, through its support for R&D, fiscal policies and other regulations, industries were directed to the production of certain products that are considered more suitable for the public. Other products were banned for local consumption i.e. DPGs. Lebanon, with a growing and relatively important local agro-food industry has yet to develop the same type of regulations for the sake of public health and safety and monitor more efficiently the import of DPGs into the country.

Recommendations

To the industry

First and foremost, the industry has to address its low competitiveness. Industrialists have to pursue a common strategy as well as individual efforts to increase their productivity. For that purpose, the interest of the industry (in conjunction with other industries that share the same structural problems) must be presented to the government and joint development programmes must be defined.

More specifically to trade and environment, the industry has to develop a pre-emptive strategy to face the outlined challenges (increasing standards, new biotechnologies, more competition from neighbouring industries, new production practices and technologies, environmental constraints on PPMs, etc.). The elements of this strategy have to be developed to respond to these challenges.

A first strategy element for Lebanese producers is the need to develop their access to quality raw materials at reasonable cost, either through encouraging the cultivation of high quality and competitive fruit and vegetable items locally (i.e. support for agriculture, possibly through industrial investments and government support) or through more productive animal husbandry and fishing activities in Lebanon, or by developing access to quality raw material from the international markets or from neighbouring countries depending mainly on their compliance with product standards to be developed (see below).[17]

An other strategic element is to take into consideration consumer preferences and concerns and improving the quality and reliability of food safety by establishing common industry standards and quality labels, increasing the product information available to consumers, etc.

For the implementation of this strategy, the industry represented by its association, must propose joint programmes with the government with the support of international organisation and NGOs present locally. Joint private/public research programmes to enhance food safety and quality. Legislation for the respect and protection of intellectual property will encourage innovations in the industry. Finally, joint training programmes (with the Lebanese University for instance) could address the lack skilled personnel in the industry.

Despite the cost it might entail, increased quality and safety measures will benefit Lebanese producers by increasing their credibility and perceived value of Lebanese products to international consumers. These measures include the support for the implementation of inspection and certification infrastructure, for every product out of a Lebanese factory. Government support for this infrastructure is essential, particularly when quality and safety standards abroad differ from national ones as equivalence of standards is possible (and included in the SPS) if the exporter can demonstrate that his own standards can provide foreign consumers with the same protection.

[17] Taken from the Report by USAID/Lebanon, SRI and LAU p.28.

To the public sector

In the context of –or in relation with- the negotiation team in charge of the WTO file, the Government has to appoint an official body to handle the Trade and Environment theme. The Ministry of Environment has been involved as a trade and environment Task Manager for the past two years in the context of the Mediterranean Commission on Sustainable Development (MCSD). It could preserve its position as the leader but a wider team, involving members of the Ministries of Economy and Trade, of Industry, of Agriculture, LIBNOR, as well as representatives from the main industrial sectors in the economy, particularly the agro-food. We propose this body to be called the Trade and Environment Commission in Lebanon (TECL).

In an effort to promote a sustainable development, the TECL should conduct a thorough assessment of national agro-food production, and more particularly its environmental aspects, in terms of abidance by environmental standards and PPMs. An action plan destined to control the pollution generated by the industry –namely the use of water and the generation of waste water- would should be based on the obligation contracted under the Barcelona Convention and its related Protocols.

The second aspect of the TECL's work should be to conduct a comprehensive policy review of environmental aspects of agro-food production and trade, with focus on the impacts and use of raw materials in the production process as well as on the compliance of Lebanese products with international standards (the Codex Alimentarius or its Lebanese equivalent, once completed), eco-labelling schemes, and the trade-related measures of MEAs. A close contact should be maintained with the CTE which has recommended the study of these measures on a global scale.

In terms of capacity building to support this role, the TECL must develop the following capabilities:

- A strategic cell that would have a thorough knowledge of the trade and environment dynamic in the WTO and that would guide the work of the TECL;
- More specifically to agro-food, an expertise in regulatory policy and food standards. A policy review regarding emerging trends in biotechnology in the agro-food industry with a focus on GMOs, veterinary drugs such as hormones, pesticides and fertilisers, etc. is needed. This will strengthen the capacity to monitor imports of raw materials according to specific standards;
- Monitoring of domestically prohibited goods (DPGs) in international markets and recommendations to competent authorities on whether specific products should be banned, restricted or allowed into the Lebanese market;

The TECL must initiate training programmes for policy-makers, negotiators, government staff in different ministries and institutions as well as for semi-public such as the Chamber of commerce and industry, etc. in order to promote the knowledge of the following topics in trade and environment:

(1) The evolution of the multilateral trade system and the potential results of the next Millennium Round of negotiations;

(2) The work of the CTE including positive recommendations when available and hurdles encountered for the other items;

(3) Environmental policies that could be related to the production and trade in agro-food products and more particularly, trade-related measures in environmental policies that could be at stake or challenged in the WTO;

(4) WTO Principles that have an impact on policy-making and the rights and obligations of states participating to the multilateral trade system.

Lebanese decision-makers and negotiators must analyse the implications of the TBT and SPS agreements, the Codex standards and the use of science and risk assessment techniques in agro-food production and trade. More importantly, these rules have to be translated into national policies to support the implementation of free trade agreements, particularly those with developed economies (i.e. the Euro-Med. Agreement and at a later date, the WTO). Furthermore, and in co-operation with the agro-food industrialists, an effort to identify labelling schemes in Lebanon's export markets must be deployed. These schemes must be compliant with the TBT and SPS provisions and if they are, a support must be provided for Lebanese industrialists to help them abide by them.

With the support of Intergovernmental Organisations and NGOs, the government must establish a clean production centre, with a focus among other industries on the agro-food sector to identify, in collaboration with the industry, environmentally sound technologies (EST) that could be introduced in the sector. The clean production centre could also support the adaptation of Lebanese products to international standards, particularly when it necessitates technical expertise.

Finally, and in order to promote its role as a services economy (which is the main economic policy headline of present Lebanese governments), Lebanon should play a leading role in the emerging topic of trade in services in the WTO, and particularly within the CTE.

THE IMPLICATIONS OF THE WTO TRADE AND ENVIRONMENT COMMITTEE RECOMMENDATIONS AND ISSUES UNDER NEGOTIATIONS ON TRADE IN THE ESCWA MEMBER COUNTRIES: THE CASE OF THE TEXTILE INDUSTRY IN SYRIA

by Fadi Atallah,
Envirotech

The present study aims at understanding the work of the Committee on Trade and Environment (CTE) established by the WTO and assess in a preliminary fashion, its impacts on the present situation of the textile industrial sector in Syria as well as its evolution in the near future.

The 10 items on the CTE's agenda are analysed and a synthesis of the content of each item is presented. General impacts on government policies as well as on market access opportunities are underlined. In addition, we realised that it was somewhat incomplete to understand the implications of the WTO/CTE discussions without stressing on the scope and role in international trade of the agreement on 'Technical Barriers to Trade' (TBT), as well as of the Agreement on Textiles and Clothing (ATC). An analytical synthesis of these topics is also conducted.

We then look specifically at the Syrian textile sector and rethink accordingly the general impacts of the CTE, taking into consideration the key factors related to the industry (such as the source of raw materials, the structure of the industry, production techniques and practices, the level of industrial developments, the distribution of export markets, etc.). The position of Syria relative to the multilateral trade system, i.e. Syria not being a member of trade Agreements, is considered as a determinant factor in the analysis of the impacts of the evolution of the ATC and CTE's work. We identify challenges to the textile industry in Syria and will be concluded with preliminary recommendations addressed for both the public and the private sectors.

The CTE work programme and agenda

CTE's work was mostly discussions and clarifications of the items proposed and reached very few specific recommendations for the modification of the WTO rules.

In brief, the CTE's role is to discuss issues relevant to trade and environment and examine what contribution the WTO might make to integrate environmental concerns in the international trade regime and support the goal of sustainable development.

The multilateral trading system in textiles and environmental exceptions

In January 1995, the WTO was established by a 'General Agreement'[18] and was supplemented by several more detailed agreements, including the Agreement on Textiles and Clothing (ATC)[19] and the Agreement on Technical Barriers to Trade (the 'TBT' Agreement)[20], that are essential to understand the evolution of trade in textiles including the provisions destined to prevent governments and actors in international trade from using measures primarily destined to protect consumers as disguised barriers to trade. These two agreements are of a particular concern to the trade and environment debate in textiles and textile products.

[18] See http://www.wto.org/wto/legal/finalact.htm

[19] The Agreement on Textile and Clothing, http://www.wto.org/wto/goods/textiles.htm,

[20] Not directly available on line but a copy can be downloaded from: http://www.wto.org/wto/legal/17-tbt.wp5

The Agreement on Textiles and Clothing (ATC)[21]

"Since 1 January 1995, international trade in textiles and clothing has been going through a fundamental change under the 10-year transitional programme of the WTO's Agreement on Textiles and Clothing (ATC)." The Agreement's aim is to remove the restrictions and quotas by the year 2005 and to fully integrate the sector into GATT rules; These restrictions operated under a special regime outside normal GATT rules, and applied to a large portion of textiles and clothing exports from the developing countries to the industrial countries,.

Once fully implemented by January 1st 2005, the ATC is going to increase considerably the prospects for competitive exporters in developed markets. In order to safeguard these prospects, exporters in developing countries must keep track of all environmental regulations that are adapted or likely to be adapted in the new agreement. As will be discussed below, these regulations could seriously restrict market access.

The TBT Agreement

The Technical Barriers to Trade Agreement ensures that technical regulations and standards, including packaging, marking and labelling requirements and conformity assessments are not used deliberately or non-deliberately as disguised barriers to trade.

Dispute Settlement

Trade disputes (including those related to national trade-restrictive policies) between two or more trading parties members of the WTO, are regulated by the Dispute Settlement Understanding (DSU) which governs the establishment of a panel, the publishing of a Panel Report outlining the issues related to the dispute and the ruling of the panel as well as an appeal mechanism to review the ruling of one or more parties ask it to do so.

The expected evolution of trade in textiles and clothing

International trade in textiles and clothing was around 300 billion US$ in 1995 (7% of world merchandise trade) and 90% of world textile-based exports in 1994 were destined to the Quad countries (the US, Canada, the EU and Japan). Developing economies enjoy a competitive advantage in the production of textiles and clothing as 62% of clothing exports originate from these economies. Their share of textile exports in 1994 was 49% but it was growing at 12% a year, faster than those of developed countries, growing at only 2% a year.

The evolution of export markets following the ATC

Because of the consensus decision-making mechanism and the joint stand taken by developed countries members to it, the TMB hasn't been able to ensure the thorough application of the ATC rules and plans. Before the end of each stage of the ATC implementation programme, the WTO Council on Trade in Goods evaluates the progress in the implementation process.

In comparison to the initial programme, the analysis of the effective textile product integration plans for the first and the second period, submitted by the importing countries maintaining old MFA quota restrictions (i.e. Canada, the EU, Norway and the US), indicates that 67% by volume of their 1990 imports would be integrated only in the last 36 months of the Agreement (i.e. between January 2002 and January 2005). Basically, the TMB found that old MFA restrictions are maintained in the new ATC regime until its third and fourth implementation phases.

In terms of monitoring and reinforcing the application of the ATC, the TMB has had a timid approach and on many occasions, it failed to express sensitive views on the use of unilateral restraints, transitory

[21] Information for the following section is based on the WTO Web page (see References)

safeguard mechanisms by importing countries (introduced when those countries considered that serious harm was being felt by their own industries as a result of increased imports) as well as on the use of rules of origin and anti-dumping measures.

Views have been expressed that the TMB is failing to implement the strict discipline of the WTO into the trade of textiles and clothing but instead, still reflects the domination of strong economies on this particular area of trade of interest to developing countries. The three cases presented below are examples of the limited role of the TMB.

It is important to note here that Syria was not a signatory of the MFA and is not a signatory to the ATC either, as it is not a member to the WTO.

Conclusion for Section I: The constraints generated by the multilateral system

The analysis of the CTE's work underline the development of a complex system for the management of trade issues concerning WTO members.

On the other hand, the integration of environmental issues in trade rules and principles in a way to support free trade is not yet settled.

The WTO system places several constraints on the design and implementation, not only of national environmental policies but also on the very basic public policy principles and a wide range of other public policies.

Regarding textiles, and despite the implementation of the Agreement on Textiles and Clothing (ATC), the real liberalization of trade in textiles is far from being certain.

Indeed, the implementation of the ATC has confirmed that the freeing of important textile and clothing products from the constraints placed on them by the MFA (which, in effect, had excluded them from the GATT arrangements for more than 25 years) will only take place in the last three years and more so, in the last day of the 10 year transitory period. Some talk can also be heard on the possible postponement of this last phase.

Furthermore, exporters fear that the opportunities created by the ATC, will be circumvented by new technical barriers limiting trade, including environmental measures, in addition to restrictive practices by importing countries to delay or limit the competition of exporters from developing countries.

Profile of the textiles and clothing industry in Syria and key issues

The yarn industry is predominantly public whereas of the 80 or so dye houses in Syria, almost 70% are owned by the private sector. The clothing industry is also predominantly private and the bed sheets and towel production remains confined to the private sector. All cotton used in the industry is grown locally. The textile industry in Syria is at 40% cotton-based. The rest is woolen, silk or synthetic fibres based, with mostly imported raw materials.

The Syrian textile industry accounts for 6% of the GDP. The Net Domestic Product of the textile industry for 1995 constituted 23% of the total Net Domestic Product of the manufacturing industries. According to 1996 figures the textile industry generates goods and products valued at about 3 billion Syrian pounds (60 million $US) locally, and 1 billion Syrian pounds (20 million $US) from exports.

Export of raw cotton and cotton-based products accounts for 7.7% of total exports (with oil included), or 16.6% (without oil). Within that percentage, raw cotton accounts for 80%, and cotton-based products for 20%. Raw cotton represent 6.5% of Syria's total exports to the EU, followed by 3.5% for textiles and clothing, which totals 10% of all exports destined to the European market[22].

[22] See Appendix 2 for detailed textile products exports.

Despite the increasing implication of the private sector in the textile production (particularly in the clothing and garments sectors), the role of the government is still dominant, as it still controls "all aspects of trade"[23]; The price of raw and ginned cotton are fixed by the Government according to estimates of the cost to farmers and of producing ginned cotton. Since 1994, the private sector has been allowed to vertically integrate spinning activities, provided the knitting and weaving is done in-house (and not sub-contracted) and that only locally-grown and processed cotton raw material is used in the production (to protect products available locally from imports). The high price of raw material and the low quality of products delivered by the public sector has hindered the industry from producing higher value-added products.

About 50% of Syria's raw cotton is exported to the EU. In the cotton based products, cotton garments are the fastest growing and the largest exports (they represented 14.5% of total cotton exports in 1996). This field is mainly dominated by the private sector. Italy is the major importer of Syria's raw cotton followed by Turkey. The other EU major importers of Syria's raw cotton are Spain, France, Germany and Portugal. For the Garments products, Germany is the major importer followed by France, the UK and Italy.

Syria's position relative to the multilateral trade system and the agreements with major trading partners

Since the signature of the Co-operation Agreement with the European Community in 1977, Syrian industrial products have free access to the big EU market (duty and quota free) until 2005, in accordance with the Uruguay Round which limits this kind of preferential treatment in time. 70% of Syria's total exports are destined to the EU.

On the international scene, quotas imposed by importing countries unilaterally or under MFA will remain until the phase IV of the implementation of the ATC, i.e. the last day of the 10 year transition period on January 1st 2005. These quotas are sometimes perceived as guarantees to market access of Syrian products rather than limiting them, given Syria's limited export capacity.

The elimination of the preferential treatment enjoyed by Syria in the EU combined to a lifting of all quota restrictions on textiles and textile products in 2005 by the EU and the developed world by virtue of the ATC, will expose Syria's textile exports to severe competition from low cost Asian textiles. It is very important to understand that Syria, not being a member of the WTO (it has not expressed officially its intention to integrate the multilateral organization), it is affected by the rules and evolution of the multilateral trade system but does not enjoy the rights of its members.

In addition, it is feared that the implementation of the ATC will encourage importers to impose new technical barriers and institute anti-dumping actions. Non-WTO members will not benefit from the ATC and the integration of all textile products in the WTO i.e. the phasing out of the MFA through the lowering of tariff barriers, the elimination of quotas, etc. Non members such as Syria, might find themselves at a disadvantage compared to other supplier, particularly if these countries impose low quotas on countries which are not protected by the fair trade mechanisms of the WTO.

In addition to negotiating with the European Union, Syria has joined the Arab Free Trade Agreement (AFTA).

Challenges and recommendations to the textiles industry in Syria

We will conclude this analysis with an outline of the challenges facing the Syrian textile and clothing industry and the corresponding preliminary recommendations.

[23] HIID Report

Challenges

In outlining the challenges facing the Syrian textile industry, it is of a primary importance to note that Syria is not a member of the WTO or the CTE for that matter and hence, is not a signatory of the ATC or the TBT Agreement, and is therefore not subject to the expected liberalistic of international trade in textiles in the coming years.

Syria has signed trade agreements with other countries members of the Arab League as well as the Arab Free Trade Agreements. Given the profound protectionist nature of most of these countries, the novelty of free trade agreements for them, and the quick rise in the use of barriers to trade between them, there are doubts whether the AFTA will be as effectively implemented as it was originally planned. The culture of free trade will definitely take some time to be assimilated, and opposition to free trade will emerge, particularly when the impacts of competition might cause the decline of whole inefficient economic sectors, closure of factories, unemployment and loss of exports revenues.

Hence, Syria's position relative to the multilateral trade system is precarious and weak. Syria does not have access to major forums related to multilateral organization dealing with trade issues, usually used for bargaining between member states (through negotiations, alliances with other countries that share similar interests, settlement of trade issues, discussion of environmental and technical barriers to trade, etc.).

In that perspective, Syria cannot have access to notification by WTO members to the organization's secretariat of trade restrictions (this systematic notifications and access to them by all members states have been recommended by the CTE in the discussions on item 4) but instead, it has to follow them up on bilateral basis with its commercial partners. The same applies to notification of DPGs particularly those in developed exporting countries, as the CTE is seeking to collect data on all DPGs from WTO member countries (recommendations of item 7 of the CTE).

This situation could look critical if the following factors are combined:

- The end of the preferential access to the European market by 2005;
- Implementation of the ATC, including in the European market, and improved market access to countries that are members of the WTO and not for Syria;
- Implementation of new technical barriers to trade by importing economies in the developed world to minimize the competition by developing economies, creating obstacles to Syrian exports.

The second major challenge facing the industry is the excess implications of the government in production and trade. The productivity and competitiveness in government owned production facilities has continuously diminished and the government pricing policy is a burden on the overall development of the industry. The modern economic system favours privately owned and flexible industries competing on world markets. A special attention must be paid to the competitiveness of Syrian products on the international markets. The internal market being limited, expansion opportunities will come from external markets, provided the Syrian industry can increase its output, remain competitive, overcome the emerging trade barriers (tariffs, environmental and technical) and satisfy the demand of ever more demanding consumers.

In addition, a government needs to implement the obligations of the multilateral trade system and pursue its rights under the multilateral trade rules. Therefore, trade policies are sometimes in contradiction with Syria's agricultural and industrial development policies (i.e. pricing and subsidies). The more government interests are in the industrial sector, the more the balance is difficult to reach.

The role of technical barriers to trade, and particularly those related to the environment, is prone to take on more importance in the coming years. Product standards, or also increasingly PPM-based requirements, are being integrated in some form or another (outright product standards, eco-labelling, EMS) in trade rules of developed economies.

In that context, the Ministry of agriculture has banned the import of PCP pesticides and has intervened in the use of pesticides in cotton agriculture. Azo dyes, prohibited by Germany have been banned by the Ministry of Economy and Foreign Trade and replaced by environmentally friendly dyes excluding those with allergic risks. This coordinated action in pursuit of trade and industrial development has allowed the Syrian industry to maintain its market share and respond successfully to the introduction of environmental standards in export markets.

The CTE is trying to regulate the increasing use of eco-labelling by subjecting them to the TBT agreement. Although eco-labelling schemes tend to be global and not directed to one producer, Syria cannot pursue the compliance of these schemes with the TBT agreement as it is not a member of the WTO. It can only do it through a bilateral approach with its trading partners.

The environmental impacts of textile production, including the cultivation of cotton, could increase if cotton-based exports maintain their current growth. Outdated agricultural and production processes are causing major pollution problems in Syria and the cost of environmental protection will increase the pressure -at least in the short term- on the competitiveness of Syrian products.

The Syrian industrial sector lacks the know-how, the technology and the skilled labour to support the improvement of productivity and environmental performances. Other chronic problems retarding the modernization of the industry are excess employment and low salaries, low quality of products, poor maintenance of the production facilities, particularly those owned by the public sector, etc.

Recommendations

Within the present context and considering Syria's position outside the multilateral trading system, Syria should "ensure the intrinsic linkage between trade promotion and the environmental requirements in defining domestic policies aimed at export-oriented industries"[24].

To the public sector

The first recommendation for the Syrian government to review the profound changes in the global economy and the expansion of the multilateral trade system and assess its implication on fundamental choices of national policies, such as the role of the state in the economy particularly in the industry, participation to the multilateral trade system through membership to WTO its specific agreements, restructuring of the industrial sector particularly the textile and clothing industry.

In this regard, the combination of factors affecting the trade regime in textile and clothing places Syria in front of a difficult alternative: integrate the multilateral trading system though memberships to the Euro-Med Association Agreement and the WTO and bear the shock of restructuring imposed by such regimes on the one hand or stay out of the free trade arrangements and bear the burden of the MFA and the ATC without enjoying the rights and disciplines of the WTO members on the other hand.

In the short term, a Trade and Environment Committee must be established, under the leadership of the Ministry of Economy and Foreign Trade (MoEFT), with a high-level participation of the Ministry of Industry (MoI), the Ministry of Agriculture (MoA), the Ministry of Environment (MoE) with sub-committees for each industrial sector. The textile sub-committee will also include stakeholders of the industry such as representatives from the Syrian Arab Standardisation and Metrology Organization (SASMO) for the follow-up of environmental standards in export markets, the General Organization for Ginning and Marketing of Cotton (GOGMOC), and the General Organization for Textile Industries (GOTI), for the introduction of environmental management and eco-labelling schemes that concern the textile industry, the adaptation of the industry to them, and certification of textile products.

[24] ESCWA, Follow-Up Study On Trade Policy Aspects Of Environmental Measures In ESCWA Member Countries

Another important task of the textile sub-committee of the Trade and Environment Committee would be the pro-active detection and monitoring of regulations and standards developed on the basis of the life-cycle analysis in developed export markets, particularly in the light of the reluctance of developed countries to fully liberals trade in textiles and clothing as per the ATC and the probability of introduction of increased non-tariff barriers to trade.

This has to be accompanied by a quick reaction mechanism to negotiate bilateral agreements with major commercial partners or incorporate new standards to the industry;

This necessitates the development of the human resource capacity in environmental institution with a focus on trade trends and environmental regulations on export markets.

The sub-committee would ensure the co-ordination between the concerned ministries by recommending policy measures to adopt the industry to export market demand.

Overall, the government has to strengthen the environmental management of the whole textile industry. As discussed above, environmental management in the textile sector will have positive impacts on the production efficiency, the international competitiveness and increased market access by greening textile and clothing products. Preliminary to that strategy is a comprehensive assessment of the overall situation of the industry, particularly regarding its environmental performance and problems. Several partial studies have been conducted in that perspective and a synthesis of their results in a comprehensive one is desirable.

The first element of the global strategy is to develop a national policy for environmental management destined particularly to the textile industry. This plan will have the objectives of preserving the local environment as textile producers are big polluters, and to support the long term competitiveness of the industry. Some elements of this policy would be the setting of progressively increasing emission standards, the implementation of an Environmental Impact Assessment (EIA) procedure for new projects, the setting of a deadline to control pollution control, etc. This plan would also address the cultivation of cotton, and alternatives such as the cultivation of organic cotton should continue to be examined.

Secondly, the support for the improving of the environmental performance of producing companies must be provided. This could include the implementation of simple good housekeeping measures in a first phase and gradually, introducing more sophisticated EMS such as the ISO 14000. Partnership with international organization and companies can help implement such programmes.

Thirdly, and as a support for the previous strategy elements, a centre for cleaner textile production technologies must be established, with the eventual support of international institutions and NGOs. This centre will develop in partnership with the industrial sector specific action plans and provide support in the acquisition of environmentally-sound technologies and provide, particularly in the implementation phase, expertise and training.

Parallel to the environmental action plan, the government must establish a committee including stakeholders in the public sector and representatives from the emerging private sector to design a short term commercial strategy for the textile sector in the light of the drastic changes expected ahead. Issues addressed should be to:

(1) The identification of bottleneck hindering the growth of the textile industry and design of programmes to address them such as: price adjustments, investments, and modernistic of the production processes, bilateral trade agreements with major trading partners, increased private sector involvement in industrial developments;

(2) The examination of the type of products to be promoted and new products to be developed;

(3) Other structural problems affecting the industry (labour, product quality, facilities maintenance, etc).

To the industry

The study conducted by HIID indicated that Syrian products comply with most of the environmental standards related to textiles in the EU and therefore, there was no negative impact of international product standards on the competitiveness of Syrian textiles. On the contrary, positive results were to be anticipated as products originating from some other countries would have to comply with the standards of importing countries. Syrian producers must therefore seek the certification to such eco-labelling schemes as they will improve the attractiveness of Syrian products.

The government needs to replace the old machinery in the public sector textile production facilities with modern, environmentally-friendly technologies, particularly in dyeing and printing plants.

In addition to the environmental preservation, these new production process will have a positive impact on the productivity of the industry through a more efficient use of resources (recycling, re-use of chemicals, dyes and water, etc.)

Awareness of trade in textiles and clothing industry provisions of the MFA, ATC and other bilateral agreement and multilateral agreements governing this trade must be promoted through seminars, contact with international partners, textile industry association initiative. A particular focus must be put on environmental and other regulations that might affect market access of these products.

IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF THE PACKAGING PRACTICE IN EGYPT

by Tarek Genena

I. BACKGROUND ON PACKAGING SECTOR IN EGYPT

The packaging sector in Egypt is strongly linked to the rapidly growing food processing, pharmaceutical and chemical manufacturing industries. The packaging market is currently valued at $577 million, with an expected annual growth of 25% for the coming three years (table 1).

TABLE 1. PACKAGING MARKET SIZE IN EGYPT
($ million)

	1996	1997	1998
Total Market Size	481	462	577
Total Local Production	144	159	175
Total Exports	43	48	52
Total Imports	380	490	629

Source : Country Commercial Guide 98/99, Egypt: US Department of Commerce

Approximately 30% of Egypt's packaging equipment is manufactured locally, while the remainder is imported mainly from Italy, China, the United States and Germany.

The packaging industry in Egypt is considered a new industry striving to grow and compete in international markets. For it to achieve these goals, the acquisition of world-class packaging equipment and packaging know-how will be required.

The packaging sector covers vertical and horizontal packaging equipment, bottle lines, can making, box making, tablet and capsule lines, and ampule making and filling lines.

Vertical and horizontal packaging equipment are manufactured locally; however, quality varies. Local manufacturers of state-of-the-art equipment are now targeting export markets. With technology transfer, it is expected that the local market will depend more and more on its domestic production leading to the decrease of reliance on the import of those equipment.

Use of packaging equipment and procedures in Egypt, depends on the type and form of commodity sold. Liquid products are packed either in jars or plastic bottles; powder products in polypropylene bags, plastic containers, metal or cartons; solids in cartons; and granules in plastic bags or cartons.

Commodities sold in bulk use different packing than those sold retail. Retail commodities are packed in glass, plastic, foil, tetra-pack (a carton lined with plastic film) or paper bags, while bulk commodities are found in cartons, drums, barrels, and polypropylene bags.

Table 2 depicts market sectors that are demand drivers for packaging and the expected growth rates of those markets during the coming five years.

TABLE 2: MARKET SHARE OF PACKAGING EXPENDITURES BY SECTOR AND PROJECTED GROWTH

Sector	Market share per Sector 1997 (%)	Percent Growth (5 years)
Food	60	7
Pharmaceuticals and Cosmetics	20	30
Chemicals	12	11
Textiles	5	10
Others	3	

Source: Egypt- Packaging: Industry Sector Analysis Report: USDOC, International Trade Administration

The Egyptian market currently adopts and uses the following technologies to package their products.

Vertical machinery: used for filling and packing products of a certain volume (such as small granules, i.e., grains and pasta) and account for the packaging of 75% of commodities. Estimated growth rate for such practice is 28%.

Horizontal packaging machinery: used for filling and packing solid items, such as soap, biscuits and chocolate bars. Growth rate for such industry is estimated at 35%, to complement the increase in production of the above-mentioned sectors.

Bottling lines: are expected to grow by 24% in five years because of an expected growth in the production of wine, alcoholic and non-alcoholic beer, distilled alcoholic beverages, aerated water beverages and mineral water. In addition, edible oil production is expected to increase by as much as 79% during the same period.

During the coming five years, textile products, including bed linen and covers, terry towels and ready-made garments, are expected to increase by 10%. This will trigger an increase in the production of plastic bags.

Canning lines: In spite of the high price of aluminum, Egypt still uses aluminum for canning ghee, fish and tomato paste. Ghee production is expected to grow by 23%, while fish canning is expected to grow by 22%. However, canning tomato paste in aluminum will decrease, as manufacturers shift to metallized packaging material, due to its cheaper price.

Display box making machinery: Display boxes are made of duplex paper and are used to pack 12-24 items, especially for confectionery, paper tissues, pharmaceuticals, etc. Duplex paper is also used in manufacturing cigarettes. These industries are expected to grow by 26% during the coming five years and will generate an increase in demand in packaging lines.

Corrugated carton box lines: Corrugated carton folded sheets are used as final packing for all kinds of industries. In spite of the existence of numerous factories recently inaugurated to produce corrugated carton, the market is not yet saturated.
One U.S. company is now studying the possibility of a joint venture with an Egyptian partner to produce this product in Alexandria. This sector is growing at a pace of 40% every three years.

Dairy industry packaging lines: The dairy industry is expected to grow by 27% during a period of five years. This industry uses foil wrapping and cutting machinery for cheese and butter and tetra-pack for milk and feta cheese. Tetra-pack, a German company, manufactures a carton/film-lined packaging material, also known as Tetra-Pack. This company has practically monopolized the Egyptian market for a long period. Its strategy has been to lease its machinery to the manufacturer, stipulating that the manufacturer buys its packaging material. However, recently P.K.L (Austria) entered the market and is now selling its machinery and packaging material to manufacturers. Prices and quality of P.K.L's product are lower than that of Tetra-Pack.

Pharmaceuticals: The pharmaceutical industry uses capsule and tablet lines and ampule glass making, filling and sealing lines. Capsules and tablets are packed in co-extruded polypropylene (OPP) and aluminum multi-layer polyvinyl chloride film. In spite of an expected 40% growth rate for pharmaceuticals, there will be no increase in demand for packaging machinery in this industry, the reason being that the majority of pharmaceutical manufacturers are now purchasing complete lines, including packaging systems, to assure maximum sterilization in production. This approach is necessary in order to comply with criteria for achieving ISO certification in the industry.

Chemicals are packed in specially treated barrels and drums, according to the kind of chemical. This industry uses vertical packaging equipment.

II. NEW INTERNATIONAL PACKAGING AND LABELING REQUIREMENTS

New packaging and labelling requirements aimed at protecting the environment are rapidly evolving in the real world and are being used by an increasing number of countries.

Discussions in the WTO have concentrated on trying to identify the trade effects of these measures and to analyze to what extent they might differ from the trade-related technical regulations and standards, promulgated in the Agreement on Technical Barriers to Trade.

The major direction of the CTE discussions has been focused on analyzing the following:

A. PACKAGING REQUIREMENTS

Two types of packaging requirements have been identified that might lead to trade effects:

1. Those that stipulate characteristics of packaging material used such as:

   - Recycled content
   - Recyclability
   - Materials that can or cannot be used in certain markets

Many technical regulations lay down product characteristics that must be fulfilled if a product is to be assured of market access, and experience with them gained through the operation of the TBT Agreement has permitted a relatively thorough understanding of their potential trade effects.

Particular attention has been paid to recycled content requirements for packaging. Several WTO delegations have expressed concern over their potential for restricting trade in both packaged goods and packaging material from countries where recycled material is not readily available or is costly.

2. Those that prescribe measures aimed at packaging disposal such as:

   - Recovery and take back obligations
   - Re-use
   - Recycling
   - Disposal obligations of packaging material
   - Deposit- refund schemes
   - Disposal fees and taxes

The second type of packaging requirement are applied not only through technical regulations and standards but also through economic measures such as deposit refund schemes, taxes, charges, and fees for accessing waste handling systems in the country of destination.

It would appear that the particular market circumstances in which the measures operate and the precise way in which they are applied can influence their trade effects to a considerable extent. In that respect,

further case-by-case examination of different measures and their trade effects would seem to be the most effective way to move forward with its analysis.

Domestic industry has in some cases been assigned a key role in standard setting and in implementing recycling schemes. At the same time, in many cases it is foreign suppliers, facing the longest transport distances to markets, who need to use the most packaging per unit of product supplied and will consequentially have to face the burden of higher disposal costs.

Requiring suppliers to recover their packaging waste from overseas markets is not considered in most instances a commercially viable option and it could lead to economic inefficiency.

Exports may be affected because smaller industries cannot afford the costs associated with take-back requirements or with the necessary adjustments in the packaging materials.

Possible harmonization of the characteristics of packaging among countries has been discussed, and it has been noted that this might be valuable, particularly if operated within a system of mutual recognition, in reducing the trade effects caused by the diversity of different packaging requirements in different overseas markets.

B. Labeling and Eco-Labeling Requirements

The United Nations Conference for Environment and Development (UNCED) recognized the potential usefulness of labelling requirements aimed at protecting the environment (eco-labelling) in terms of them providing information that can assist consumers to make environmentally-sound purchasing decisions.

The choice of products to be labelled and the criteria that a product must meet to obtain an eco-label are viewed as generally being the most critical aspects of a labelling programme. It has been noted that both tend normally to reflect local environmental conditions, such as resource constraints and local preferences for specific environmental product attributes, which may prove difficult for foreign producers to meet or result in overlooking positive environmental qualities of imported products. Local industry influence in the choice of products or criteria should not result in inadvertent protective consequences, and the importance of basing the criteria on sound scientific evidence has been stressed. Some saw a need for a greater role for public authorities in certain aspects of the process of developing and granting eco-labels.

Eco-labeling criteria based on processes and production methods (PPMs) which are put in place using a single formula may prove particularly difficult, and even environmentally inappropriate, for overseas suppliers to meet. PPM problems can vary from one country to another, and they raise a number of complex issues in respect of the trade effects of eco-labels.

Diversity of eco-labeling schemes in different markets, and the problems that this can cause for all multi-market suppliers, especially those of relatively small size, were raised. Doubts were expressed as to whether standardization has an effective role in reducing this diversity: it is probably neither desirable nor possible to try to standardize differences in environmental conditions, tastes and priorities in different countries. More potential was seen for harmonization and mutual recognition of criteria used to award eco-labels and of the eco-labels themselves.

Eco-labelling schemes raise particular trade concerns when they include production-related criteria as opposed to product requirements. Such criteria can discriminate against imports when they reflect exclusively the environmental conditions and preferences of the importing country, and the effects can be particularly acute for developing countries and countries heavily dependent on exports.

III. IMPLICATIONS OF CTE FINDING ON LOCAL PACKAGING INDUSTRY

A. THE IMPACT ON COMPETITIVENESS AND MARKET ACCESS RIGHTS OF EGYPTIAN EXPORTERS

Existing and projected packaging requirements and eco-labelling programmes in developed countries raise concerns among developing countries since they increasingly address product categories which are of export interest to them, such as paper, textiles, leather, footwear, and food products. This at times raises suspicion of possible protectionist intent. In these areas, eco-labelling tends to include PPM-related criteria such as those referring to efficiency in the use of energy and water and the treatment of waste water used, the level of SO2 emissions, or the level of water emissions of certain chemicals. Meeting eco-criteria of the importing country can involve developing country firms in having to make investments additional to those that are needed to meet national environmental objectives.

Egyptian exporters can face disadvantages vis-à-vis domestic producers of an importing country in having to meet these measures, and the costs of adapting to packaging requirements may be particularly burdensome for small suppliers and those who lack the necessary technology to adapt to new packaging regulations and access to conformity assessment facilities to comply with certification procedures.

Producers in developing countries may also face technical and resource problems in conforming with packaging requirements. Producers show concerns that requirements such as recycled or recyclable content may result in packaging costs becoming high in relation to sales revenues, especially if they have to import packaging material so as to be able to subsequently export goods as has happened in the case of bulk packaging for Indian exports of footwear to Germany. This not only can increase export costs but also may harm prospects for the domestic packaging industry. Producers also mentioned difficulties in submitting packaging for evaluation and obtaining the necessary certification, especially if on-the-spot inspection of production and packaging facilities is required.

The competitiveness effects of environmental regulations may differ between small and medium scale enterprises (SMEs) and large firms. Adjustment to environmental requirements is generally more difficult for SMEs. In developing countries, SMEs account for a large share of exports but export only a small share of their total output. This may also impact on their capacity to adjust to environmental standards. In addition, the problems mentioned in the preceding paragraph are exacerbated in the case of SMEs, which often are family-run enterprises, located in urban areas with deficient infrastructure, working with obsolete technologies, and with a weak market and financial position. Moreover, some investments which would be required to comply with environmental standards and regulations, such as installations for recycling industrial waste or waste water treatment, may not be economical on a small scale. Thus, they have little scope to improve their productivity.

B. LACK OF INFORMATION

Main difficulty associated with packaging regulations for developing country exporters is the uncertainty about what is allowed and what is not, and problems of knowing where to obtain the relevant information. Understanding and adapting to differing requirements among countries has also been reported as representing a handicap, and getting the information may be an expensive exercise.

The difficulties faced by SMEs in getting timely information on foreign standards and environmental regulations further influence SMEs' ability to comply not only with environmental requirements, but also with quality and other similar requirements. Fulfilling environmental requirements could lead to improved product quality, and in the long term, help to improve SMEs competitiveness provided timely information and training is provided on:

- Technologies needed
- Know-how
- Regulations and standards

C. DIVERSIFICATION IN THE NUMBER OF PACKAGING REQUIREMENTS

Given the general lack of international harmonisation in the area of packaging requirements and measures, exporters may have to meet different packaging requirements in different markets. Important differences can exist in such areas as specification of materials of which packaging can be made, recovery, re-use and recycling targets, and the characteristics of recovery or return systems. This can lead to increased compliance costs and may force some exporters to abandon smaller export markets for which the cost of adaptation would exceed the expected benefits.

E. EFFECTS OF HARMONIZATION OF LOCAL STANDARDS WITH INTERNATIONAL

Egyptian policy makers may eventually find it more beneficial to harmonize domestic packaging and labeling standards and regulations with the international standards. This will undoubtfully force exporters to upgrade their packaging practice to comply with regulations at an increased cost. This may impact their ability to access foreign markets considering the increased packaging cost and treatment requirements and may impact the local market demand on Egyptian products given that the Egyptian market is quite a price sensitive market.

If regulations are not carefully drafted they may offer a competitive advantage for foreign exporters who may be able to comply with those domestic regulations at cheaper costs for reasons of factor endowments, availability of packaging material, know how and economies of scale. This will lead to imported products having a better market standing and higher demand locally vis-à-vis Egyptian products.

E. ECONOMIES OF SCALE CONSIDERATIONS

The market share of Egyptian packaged exported products will to a large extent determine the competitiveness of the packaging cost per unit as compared to the market share of other foreign suppliers. The competition between Egyptian products abroad with those of other countries who enjoy higher market shares of certain products may be hampered as a result of the increase in packaging costs to meet with domestic packaging regulations of the destination market. There is also the concern that the extra packaging cost will not suit domestic consumers preferences or concern due to the lack of general environmental awareness and in the absence of means of adjusting prices of foreign products imported into the domestic market.

F. AVAILABILITY OF RESOURCES

The kinds of packaging favoured by exporters for reasons of national resource endowment, production or transport costs, or technological capacity may be banned in the importing market for want of appropriate disposal facilities. Exporters may not be allowed to use domestically available material in case the requirements of the destination market prohibits such materials or imposes post delivery obligations on those materials such as disposal, recycling or take back obligations.

G. IMPACT ON LOCAL PACKAGING MATERIAL AND EQUIPMENT MANUFACTURERS AND EXISTING PACKAGING STATIONS

Almost 30% of packaging equipment and machinery are provided in Egypt through local producers in addition to a number of existing packaging stations that many food product producers rely on to provide packaging services for export purposes. The impact of the varying packaging regulations on these may be quite considerable. In case of local producers, they may need to completely change their operations and know how to comply with those new international packaging regulations and requirements. This will incur extra costs on the local purchasers of packaging equipment and materials. There is also the concern that local packaging equipment and material manufacturers will not be able to compete on the international stage due to the lack of research and development facilities and to the need to pay high licensing and royalty fees in case of technology transfer from abroad. The question of financing such changes is also feasible in this context considering the higher lending rates in Egypt as compared to the libar and Euribar.

As to the existing packaging stations, a similar analysis also applies, further taking into account that there be loss of revenue as a result of the upgraded operation incurring higher fees charged to producers in exchange of packaging services.

In relation to eco-labelling schemes based on life-cycle analysis (LCA) of a product, involving processes and production methods (PPM) criteria, have been flagged as a matter of particular concern. These may be based on specific technology which is not readily available to Egyptian packaging machinery manufacturers.

Egyptian manufacturers and packaging service provider's access to an eco-label may prove more difficult if their own PPMs do not coincide with those required in the importing market, and the PPMs required in the importing country may be little relevant to the environmental conditions of Egypt. Manufacturers may face particular difficulties in switching to different PPMs in order to be awarded eco-labels in their main export markets.

H. DISTANCE OF TRANSPORT AND PACKAGING PER UNIT

In view of the generally longer distances to markets that Egyptian products face, they are likely to find it necessary to use greater quantities of transport packaging per unit of product than domestic suppliers of the importing country and consequently to incur increased costs. In the case of take-back obligations, access for Egyptian suppliers may be made singularly difficult due to the expected increase in costs associated with returning the packaging material back to the producer.

I. TRANSPARENCY AND NOTIFICATION OF PACKAGING REGULATIONS AND SETTING PROCESS

Egyptian exporters should have an opportunity to express their trade concerns at an early stage in the drafting and preparation of new packaging regulations, and should be notified about new schemes with adequate lead time. Efforts should be made to harmonise, to the extent possible, various national schemes while taking into account varying environmental and economical conditions of different markets.

J. THE POSSIBILITY OF COUNTERVAILING ENVIRONMENTAL BORDER TAX ADJUSTMENTS AGAINST IMPORTED PRODUCTS

In light of the difficulties that may arise before Egyptian exporters, Egyptian policy markers may need to resort to the imposition of environmental border tax adjustments to enforce Egyptian producer's position in the domestic market. This may negatively impact Egyptian importers and those local producers who rely on imported raw materials and necessary elements of production. Those taxes may further raise disputes between Egyptian and foreign governments under the principal of national treatment.

K. THE LACK OF ACCESS TO CONFORMITY ASSESSMENT FACILITIES

Egypt, thus far, does not have a certified conformity assessment facility responsible for inspecting packaged products and their labeling before shipment to destination markets. This may lead exporters to face the risks of shipment rejections once arriving to the destination market and having to bear the extra costs of shipment back to Egypt or repackaging arrangements.

Consequentially, there is a large need for the establishment of such a facility responsible for inspecting and certifying the following:

1. That packaging material used by the exporter is in compliance with measures and requirements of the destination market.

2. That the packages are properly labeled especially in relation to eco-labeling requirements.

3. To audit, consult and award Egyptian exporters suitable eco-labels for destination markets facilitating and ensuring access to these markets and ascertaining compliance with requirements.

L. BENEFITS AND OPPORTUNITIES

As much as the issues of trade and the environment relating to packaging and labeling requirements pose many challenges and risks for Egyptian exporters, they also present a number of opportunities such as: The packaging practices upgrade of Egyptian producers to comply with packaging requirements adopted for environmental purposes could be well used as a marketing advantage of those products abroad and as such could meet consumer preferences of developed world increasing sales volumes

If domestic packaging requirements are harmonized with the international standards particularly in relation to re-use, recycling and prevention, the foreign suppliers will solicit services from local waste collection and treatment facilities for these purposes. This would be a new market opportunity for investors and a source of employment in addition to the benefits of the potential decrease of reliance on imported virgin packaging material.

Subscription to particular eco-label programmes especially those that include PPM requirements will ultimately improve local environmental conditions on voluntary basis rather than through legal governmental enforcement.

Through proper presentation of Egypt's case on the international scene and through international co-operation, packaging practice development, capacity-building and trade concessions could well be secured through international assistance and grants.

In order to upgrade the packaging practice in Egypt it is very likely that state of the art technology and know-how would need to be imported to Egypt. This will create an opportunity for importers to engage in the supply of such a technology to satisfy the domestic market demand.

An opportunity will also be created for consultants capable of aiding exporters in identifying optimal measures to comply with international and country specific packaging and labeling requirements.

IV. CONCLUSIONS AND RECOMMENDATIONS

The CTE findings on trade and environment issues, as they relate to packaging requirements adopted by different markets for environmental purposes, have been found to have both negative and positive implications. In essence, the negative implications will create potential market access barriers to Egyptian exporters and actions taken to alleviate those barriers may be costly enough to impact the competitiveness of Egyptian exports when compared to domestic producers of the destination market or even foreign producers whose economies of scale, technical expertise and financial ability may permit complying with regulations and requirements in a cost effective manner.

In order to deal with those implications, whether positive or negative, an organized approach should be instituted and carefully crafted empowering all domestic stakeholders to make positive contributions and take positive measures to curb the challenges and exploit the opportunities that trade and environment issues will lend.

In light of those implications, a national sub-committee on trade and the environment was formed and co-chaired by the ministry of environment/EEAA, ministry of trade

And hosted representatives from different Egyptian ministries and the Federation of Egyptian Industries to discuss the most prominent issues of the trade and environment debate.

A number of workshops were organized by the subcommittee addressing all concerned stake holders with a view of raising awareness and laying down the general framework for the best approach to tackle those issues. The need for a national program to be prepared and implemented was identified as a result of the sub-committee deliberations and workshops.

To achieve this goal it is recommended that a national Program is to be initiated having the following key elements:

1. To perform necessary studies and research on the subject matter and assess the challenges facing, opportunities available for and different needs of concerned stake holders.

2. Raising awareness of relevant stake holders in regards to the challenges posed and the opportunities presented by the debated issues of trade and environment.

3. Building long-term capacity of the different stakeholders to address the issues of trade and environment particularly in regards to raising preparedness to face the challenges and exploit the opportunities.

4. To collect, organize and disseminate timely and relevant information enabling domestic exporters to make informed decisions.

5. Mobilizing international cooperation as a means of addressing the issues of trade and environment in a proactive action oriented manner.

The national program could be implemented through the following activities:

A. Sectoral Level Assessment and Research Studies

This activity will focus on researching cross-cutting themes of international relevance, aiming to identify and analyze the most important trade and environment issues at the domestic level, based on three hypotheses:

(1) There are exports of significant economic and political significance to the country, which are vulnerable to trade measures based on environmental considerations.

(2) There are import flows which pose significant environment/development risks, control of which is difficult under current trade rule obligations.

(3) There are significant opportunities for policies, which address such problems while advancing sustainable development.

B. Raising Awareness and Building Capacity

The second element of this program is to raise awareness and strengthen capacity in governments, research institutions and NGOs to address the issues of trade and environment. The target audience will be varied depending on the sector addressed but should include policy makers in trade and environment ministries, environment and development NGOs, research institutes, business and academia.

The major outcomes and results of this key element should be:

(1) A number of work shops targeting stake holders concerned within different sectors presenting the major issues of trade and environment debate relevant to that sector and the challenges and opportunities that those issues may pose on the short and long terms and potential means of addressing the challenges and actions to exploit the opportunities.

(2) A number of training sessions targeting institutional capacity building for policy makers and NGOs enabling them to further examine the issues of trade and the environment and to positively contribute to most likely implications and measures to minimize the negative impacts and exploit opportunities.

C. Establishment of an Information Clearing House (information node)

The third objective of the program is to compile, organize of needed information and the establishment and continuous update of an Information Clearing House (information Node) on trade and packaging requirements (along with any other relevant information) such as:

(1) Different International Standards, regulations and requirements for different destination and targeted markets

(2) Notifications of markets on changes in their domestic regulations and requirements

(3) Identification of consultants and consulting entities capable of helping exporters update and develop their operation to comply with international standards

(4) Identification of international and domestic technical assistance programs offering services (technical or financial) to private sector exporters

(5) Identification of technology and know-how needed and their suppliers

D. MOBILIZATION OF INTERNATIONAL COOPERATION

In recognition of the cross-border nature of serious environmental problems and with the necessity of protecting the interests of domestic Egyptian exporters, the Government of Egypt (GOE) should seek to strengthen its role, particularly in relation to the international obligations which it has entered into under conventions and protocols, to proactively participate in the international trade and environment debate and to further show case Egypt's interests and needs in relation to issues and implications resulting from findings of the debate and the research activities performed domestically.

Mobilizing International Cooperation should be a priority for the GOE in addressing issues on trade and environment.

IMPLICATIONS OF THE RECOMMENDATIONS OF THE WTO COMMITTEE ON TRADE AND ENVIRONMENT AND ISSUES UNDER NEGOTIATION ON TRADE IN THE ESCWA REGION: THE CASE OF THE LEATHER INDUSTRY IN SYRIA

By Riad al Khouri,
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A. THE ENVIRONMENTAL FRAMEWORK IN SYRIA

Environmental awareness is growing in Syria, but otherwise the country's situation is different from that of Jordan. Globalization has not made important inroads on the Syrian economy, WTO accession is not yet one of the country's immediate priorities, and the Euro-Med negotiations between Syria and the EU still have some way to go.

Industrial growth in Syria is a major cause of environmental problems. Most industrial activities are still characterized by a lack of pollution control and the absence of cleaner production technologies. Some Syrian industrial waste treatment plants are poorly managed and maintained, and are often not compatible with the production processes. Various Syrian industrial activities also suffer from other forms of inadequate infrastructure, especially for wastewater disposal. An example of this is found in the Barada River in Damascus, where uncontrolled discharges have led to the contamination of groundwater.

A number of laws and regulations have been passed in the past few years addressing various environmental issues, and a comprehensive Law for the Protection of the Environment is being prepared, defining standards, rules and conditions for dealing with the environment. The proposed law has been revised and reviewed several times and is awaiting approval. The draft Law for the Protection of the Environment:

- enforces the PPP
- establishes higher penalties for discharging dangerous wastes or dangerous substances.
- compels industrialists to report any accident that causes pollution or environmental damage.
- establishes a fund for protection of the environment through the General Commission for Environmental Affairs (GCEA)

The Ministry of State for the Environment (MSE) is the lead ministry on environment in Syria. It is responsible for:

- proposing environmental policies, plans and projects to the Higher Environmental Council
- monitoring the execution of environmental laws and regulations
- supervising the work of the GCEA.

The MSE relies on local Environmental Committees for enforcement, while the GCEA is its technical arm. The GCEA carries out a number of tasks in coordination with the other government agencies. These include: defining environmental problems, formulating policies, raising public awareness on environmental issues, and monitoring MEAs and making recommendations to government on these agreements. (Syria has recognized and adopted certain international laws pertaining to the environment.)

A National Environmental Strategy has been drafted (but not yet adopted) with the financial help of the UNDP and the technical support of the World Bank. Six priority environmental problems have been identified:

- degradation of water resources
- degradation of air quality
- depletion of fresh water resources
- land degradation
- poor management of solid wastes
- degradation of the urban environment

The draft National Environmental Strategy estimates the total cost from environmental degradation in 1997 to be SP29-32 billion (SP50 = approx $1), to rise to SP46-54 billion by the year 2005 if present conditions prevail. The draft strategy also estimated the cumulative total pollution control expenditure needed for the 13 year period 1998-2010 to be SP223 billion or about $4.5 billion

Syria, like many developing countries, is encountering environmental problems arising from its rate of population increase and economic expansion. Pollution has increased during the past two decades to an alarming level, exacerbated by the rise in the number of industrial plants that are built near rivers and lakes.

The lack of a regulatory law dealing with environmental issues, has forced various government departments in Syria, led by the MSE, to apply a collection of rules extracted from existing regulations. Although they address some environmental aspects, these regulations were not originally meant to deal with environmental issues but to serve a particular, economic, social, technical, sanitary, municipal or other purpose related to environmental matters. Moreover, the MSE tends to direct all Ministries with environmental concerns to take the necessary measures that each deems appropriate to treat as its own environmental problems. (1)

B. THE LEATHER INDUSTRY IN SYRIA

Many of the craft industries such as tanneries that are dispersed around and in Syrian cities use old, polluting technologies. The production of leather, beginning with the tanning of hides, has a considerable impact on the environment and results in a number of problems:

- water pollution: the discharge of untreated effluents to surrounding water bodies, and the resultant pollution of groundwater

- soil contamination: the discharge of untreated effluents to surrounding areas, as well as the disposal there of toxic and otherwise hazardous waste

- solid waste generation: the generation of waste, some of it toxic or otherwise hazardous, in the absence of adequate waste disposal systems.

The leather industry in Syria is dominated by SMEs. Such businesses suffer from limited production capacity, limited product development capacity, and lack of quality assurance. SMEs do not have always access to timely information on environmental regulations; specially since they typically have no direct contact with importing firms, and do not have the resources to easily adapt their production process. Such problems, encountered by SMEs in many other countries (2), are acute in Syria. There are some 280 tanneries in Syria, almost all located in the country's two main urban centers of Damascus (85%) or Aleppo (14%). Most (97%) are small-scale private sector entities, and the rest are medium-sized public sector firms. The public sector, characterized by uneven, lower quality, is gradually being overtaken by private business, which now accounts for about eighty percent of production.

The production of leather brings about a considerable amount of polluting materials mainly discharged with effluents leaving the tanneries. Due to the concentration of Syrian tanneries in clusters within towns, environmental pollution in these areas has reached such proportions that it represents a health hazard to the population and in particular to water supplies used for different purposes. Hence remedial measures are required to reduce the negative impacts on the environment. However, disruption in the activities of the tanning industry, and thereby in the production of leather products would have a grave impact on employment and on the utilization of available natural resources as well as on export earnings which in this sector presents a great potential. (3)

The negative environmental effects resulting from the extensive tanning activities carried out in Damascus in particular are severe. These include all the initial wet operations required to transform the raw hides and skins into tanned and finished leather, in which the most polluting waste materials are generated

(sulfides, chrome, salts etc). The highly polluted effluents are presently discharged into the branches of the Barada river passing through the area.

An attempt to decrease the pollution was made in a public tannery in Damascus some years ago through and effluent treatment plant (ETP) of rather sophisticated technology. Unfortunately the ETP has never been properly used because of the lack of information, environmental awareness, technical training and education, pollution control legislation and enforcement as well as the high running costs required for such treatment. The result is that the effluents are still discharged directly into the river. However, its water, which was used liberally in the past, is now sorely needed for agriculture and human consumption; instead, it is being irreversibly polluted by the industry.

The tannery effluents resulting from the great number of tanneries in the Damascus and Aleppo areas have now reached a level of environmental degradation that represents a direct health hazard to people living nearby. On the other hand, though acutely aware of the environmental problems of the tanneries and working towards a solution, the government supports the development of the leather industry as one having export potential. Leather product total exports in 1997 equaled $3.5 million, (4) a modest amount when compared with Syria's major exports. Nevertheless, the share of Syrian leather exports in total leather produced has reached 31% in recent years (5). Moreover, the important position of the textile and garment industry in the country and the hopes for realization of the export potential of this sector has encouraged an examination of the leather goods exports as ancillary to those of clothes.

Uncontrolled tanning activities have adverse impacts on the surrounding environment mainly on surface water, land, ground water, air, and adverse health impacts on both the workers and the neighboring community. Nevertheless, though the problem is still very serious, small improvements in the situation have been made in the past few years.

Tanning of hides and skins to convert them into leather has been an important industrial activity in Syria since antiquity. There is a steady supply of raw materials, and a ready market for finished products. Moreover, several production processes in this industry are labor-intensive, which translates into distinct opportunities for countries such as Syria with unemployment problems. In common with other SMEs in the ESCWA member counties, "the leather industry represents an excellent source of employment opportunities." (6)

The negative environmental impact of tannery operations in Syria is widely acknowledged. There is less consensus however about how and by whom these impacts should be resolved. Different sectors of the community have varying perspectives on environmental issues, and place different priorities on these vis-a-vis other economic goals. For example, the country's General Union of Artisanal Societies and the Tanners' Syndicate unite the private sector of the tanning industry in Syria and are very active in looking for solutions for the problems of their members. Using their strong influence, they have played and are still playing a major role in dialog with the authorities over problems of pollution control and the future of the Syrian leather industry. (7) On the other hand, the position of the government is complicated by its being simultaneously involved in leather tanning on the one hand and pollution control on the other. (8) Modern technology has now cut the inevitable link between tanning and environmental degradation, but this happy situation may be easier to reach in developed economies. (9) For developing countries such as Syria, the issue of promoting tanning, and eventually leather goods exports, while simultaneously curbing environmental degradation might be further down the road.

Urgent challenges now exist for leather manufacturers and their technical personnel as well as for regulatory authorities in Syria. Modern alternatives to the outdated technologies being applied in most of the country's tanneries are readily accessible and do not require unduly high capital investment; tanneries can recover the costs associated with the introduction of new technologies within a relatively short period of time.

Chromium -containing waste from leather and related industries will persist. Hence, it is vital that a through understanding of the environmental impact of chromium, in both its and its varieties, be gained at the local level. This understanding should not be confined to tannery technologists. Regulatory authorities

must also be made aware of the dangers; they should be provided with a clear explanation of the immediate and long-term effects of chromium wastes and of how such wastes may interact with other components in surrounding ecologies.

Urgent steps must be taken to improve the environmental profile of Syrian leather industry through measures that encompass technology acquisition, revision of management practices and workforce training, as well as legislative and enforcement measures. Close cooperation between concerned governmental and non-governmental entities is needed to remedy the situation. The problem of introducing environmentally sound technologies into the numerous small private sector tanneries requires particular attention.

Limited attention is paid in Syria to many aspects of the leather industry including trade in hides and skins, machinery, chemicals, dyes and finishing agents, quality assurance and quality standards, allied industries and effluent treatment issues;

Little is published in the country covering technical and economic topics of interest to the industry as well as new of new products/processes, with emphasis on providing information on environmentally sound products/processes and preliminary assessments of their environmental impact

Adequate and continuous funding for the purpose of acquiring technology and carrying out activities aimed at upgrading the industry's environment performance is lacking.

The following chapter will examine trade-environment questions, using the Syrian leather industry to illustrate the issues involved.

C. THE TRADE-ENVIRONMENT INTERFACE IN SYRIA

The ten items on the CTE agenda listed in Chapter III above each do or will to a greater or lesser extent impinge on trade and environment issues in ESCWA Member states. Some of the more relevant ones will be discussed separately below, with their applicability to the Syrian case study above being mentioned as appropriate.

Though Syria is not in the process of accession to the WTO (1) and not a major exporter of leather, the choice of the Syrian tanning industry as a case study on trade and the environment was made to broaden the of illustration the trade-environment interface and show how it could apply to different countries and industries.

1. *Issues addressed in the CTE agenda*

Item 1: The relationship between the provisions of the multilateral trading system (MTS) and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements (MEAs); and Item 5: The relationship between the dispute settlement mechanisms in multilateral trading system and MEAs. (2)

With respect to MEAs, Syria has adhered to a number of them and is generally responding positively to the issue of accession to MEAs. Also similar is the internal position in each country of publicizing and otherwise promoting the relevant MEAs. Though Syrian MEA Membership has not been an issue for Syria's regarding leather, a position by the WTO that conflicts with the provision an MEA will other things being equal lead to similar anti-WTO reactions. This is because in acceding Jordan and non-acceding Syria, the WTO is viewed as body on par with the Bretton Woods institutions in its relation to national sovereignty and perceived national interest. While Members of the WTO secretariat may find this strange, such an attitude nevertheless exists.

Though there is concern that trade measures taken pursuant to MEAs can conceivably conflict with GATT provisions, and that the latter could work to inhibit if not prevent a desirable conclusion of a future MEA, in fact only about 20 of the more than 150 MEAs negotiated to date contain any trade provisions, and no cases of dispute involving them has occurred to date.

Possibilities of conflicts arising in the future over the trade provisions contained in MEAs will be minimized through better coordination between trade and environment officials in national capitals and between different countries. In the case of Syria, however, the example of tanning being undertaken under the Ministry of Industry and of environmental protection being pursued by the Ministry of State for the Environment is potentially difficult.

In other words, anticipating WTO Membership and disputes with WTO Members, there should be a clear and workable relationship among the different local parties concerning the trade-environment interface.

Item 2: The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions
of the MTS.

Transparency is also considered to be a highly important focus of CTE discussions under this item. A high degree of transparency is desirable in all cases and would assist in minimizing unintended trade effects and reducing the possibility of protectionist abuse. Nevertheless, concerns have been voiced in the CTE over the adequacy of transparency of economic instruments, measures taken by sub-federal government authorities and by the private sector, and voluntary measures.

Transparency is not an end in itself but a means to build confidence in and provide security and stability to the MTS, to minimize trade restriction and distortion, to assist private sector operators to adjust to changing trade policies, and to prevent trade disputes from arising. Some in the CTE discussions have thus cautioned against excessive ambition at a detailed level in this area, and particularly against over-extending notification requirements.

Ex-ante notification (before adoption and implementation of trade-related measures), such as that required under the terms of the WTO Agreement on Technical Barriers to Trade (TBT), could offer the opportunity for other interested Parties to provide input at the stage of development of new legislation and time for affected producers to adapt to new regulations. At the same time, ex post notification, which is the norm in GATT, when properly complied with, can go a long way towards meeting the objectives described above.

Unfortunately, lack of transparency in economic policymaking and policy implementation in many ESCWA countries, including Syria, could clash with the spirit of the above ideas on notification etc. However, SMEs such as those in the Syrian leather sector, might thus prove to be more transparent than either their larger counterparts elsewhere.

Item 3a: The relationship between the provisions of the MTS and charges and taxes for environmental purposes

Scope exists under WTO provisions for Member governments of the WTO to apply environmental charges and taxes. This could clearly be done in a positive and constructive fashion in the case of Syrian tanning. The problems that would then arise would concern transparency, and then the danger of transformation of a tax into a revenue-generating measure with less regard for any original environmental considerations.

By contrast, the danger exists that such taxes or charges could be applied to exports of Syrian leather goods.

Item 3b: The relationship between the provisions of the MTS and requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labeling and recycling;

New packaging and labeling requirements aimed at protecting the environment are rapidly evolving throughout the world and are being used by an increasing number of countries. In particular, eco-labeling

programs are becoming more important environmental policy instruments. Though there are still few such schemes operating in WTO Member states, there are now less doubts about eco-labeling becoming a significant new force in the market. Fast moving changes in the area of ecologically friendly products and an array of new country-specific schemes of eco-labeling are sometimes causing confusion among exporters in developing countries. New measures in this field create rules and regulations for the environmentally friendly products and production methods without seemingly paying much attention to potential difficulties they may cause in developing countries. Eco-labeling is expected to become compulsory in the near future in some developed economies. Such environmental measures may then become a threat to Syrian leather goods exports as the product categories covered by such schemes are of great export interest to these countries (for example footwear). Even if not explicitly compulsory the increasing list of labeled products will make eco-labeling unavoidable for serious producers. The multiplication of eco-labeling schemes with different criteria and requirements might have the effect of limiting market access for overseas suppliers.

Increased transparency can help deal with trade concerns regarding eco-labeling schemes/programs while it can also help to meet environmental objectives by providing accurate and comprehensive information to consumers. The CTE felt that an important starting point for WTO Members to address some of the trade concerns raised over eco-labeling schemes/programs is by discussing how to ensure adequate transparency in their preparation, adoption and application, including affording opportunities for participation in their preparation by interested parties from other countries. The transparency provisions contained in the TBT Agreement provide a reference point to the further work of the CTE in enhancing transparency of eco-labeling schemes/programs.

Item 4: The provisions of the MTS with respect to the transparency of trade measures used for environmental purposes and environmental measures that have significant trade effects

As discussed above, transparency minimizes the risk of trade friction and helps ensure that producers and exporters have access to crucial information on trade related environmental measures. However, increasing transparency could lead to additional costs, particularly the establishment of "national inquiry points". Such inquiry points in WTO Member countries are mechanisms to provide information on specific environmental measures. The ones envisaged could inform exporters about the trade restrictions related to the objectives of environmental preservation.

Item 6: The effect of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and the environmental benefits of removing trade restrictions and distortions

The CTE acknowledges that an open, equitable and non-discriminatory MTS and environmental protection are essential to promote sustainable development and that there is a close linkage between poverty and environmental degradation. In this respect, the CTE could contribute to the identification of trade policy actions that can enhance the participation in world trade of developing countries, and in particular the least developed among them, and promote environmental protection in the interest of sustainable development.

There is concern in the CTE that environmental measures and requirements may adversely affect the competitiveness and market access opportunities of SMEs especially in developing countries. This would in particular hit the leather sector in Syria. The environmental benefits of trade liberalization, including the removal of trade restrictions and distortions, has been addressed at both a general and sectoral level and in relation to specific trade restrictions. Consequently, improving market access opportunities and preservation of the open, equitable and non-discriminatory nature of the MTS is essential for supporting countries in their efforts to ensure sustainable management of their resources. It has been recognized that trade liberalization including the elimination of trade restrictions and distortions can yield developmental and environmental benefits by facilitating a more efficient allocation and use of resources. At the same time, however, the CTE underlines that implementing appropriate environmental policies determined at the national level as part of sustainable development strategies is needed in order to ensure that these benefits are realized and that trade-induced growth will be sustainable.

In this context, particular attention should be devoted to the environmental benefits of initiatives that could enhance the trade performance of countries which remain only marginal participants in world trade, including lower income commodity-dependent countries, such as Syria. This work should take particular account of the needs of SMEs. Further work is needed to ensure that the implementation of environmental measures does not result in disguised restrictions on trade, particularly those that have adverse effects on existing market access opportunities of developing countries.

Item 7: The issue of the export of domestically prohibited goods

The CTE recognizes that serious concerns have been expressed by some developing country Members about the export to them of products whose domestic sale or use is banned or severely restricted because they pose a threat to human, animal or plant life or health or the environment. These Members consider that they do not have sufficient timely information about the characteristics of these products nor the technical or technological capacity to make informed decisions about importing them.

At the same time, progress continues to be made in other inter-governmental organizations in addressing problems created by trade in potentially hazardous or harmful products. The CTE recommends that WTO Members also consider participating in the activities of other organizations which have the relevant expertise for providing technical assistance in this field.

The CTE needs to continue to concentrate on what contribution could be made in this area by the WTO, bearing in mind the need for this work neither to duplicate nor to deflect attention from the work of other specialized inter-governmental fora.

The CTE recognizes the important role that technical assistance and transfer of technology, on mutually agreed terms and conditions, related to domestically-prohibited goods where trade is allowed by the international community can play in this field, both in tackling environmental problems at their source and in helping to avoid unnecessary additional trade restrictions on the products involved. WTO Members should be encouraged to provide technical assistance to other Members, especially developing country Members, particularly the least-developed among them, either bilaterally or through appropriate inter-governmental organizations, to assist these countries in strengthening their technical capacity to monitor and, where necessary, control imports of domestically prohibited goods.

There is no consensus on the role of the WTO in regulating the trade in DPGs nor on the extent to which DPGs should be regulated from a trade point of view.

The automatic ban on the export of DPGs is far from being a consensual issue at the WTO. The trade in DPGs is mainly regulated by MEAs for a series of products but must be supported by proper notification mechanisms and the capacity of importing countries to evaluate the risk that imported DPGs poses on their environment. This capacity in Syria is not considered to be strong enough.

Item 8: The agreement on Trade-Related Intellectual Property Rights

The Intellectual Property Rights regime represented by the WTO's TRIPs Agreement poses many questions in terms of the dissemination of ESTs to developing countries.
The stresses that CTE the TRIPs Agreement has an essential role in facilitating such dissemination. However, the CTE has indicated that more work is required to help develop a common appreciation of the relationship of the relevant provisions of the TRIPs Agreement to the protection of the environment and the promotion of sustainable development, and whether and how, in comparison to other factors, these provisions relate, in particular, to the following issues: facilitating the generation of ESTs; and facilitating the access to and transfer and dissemination of ESTs.

Item 9: The General Agreement on Trade in Services

Further work in the CTE on this item is necessary before drawing any conclusions on the relationship between services trade and the environment, or on the relevance of inter-governmental agreements on the

environment and their relationship to the GATS in the context of sustainable development. Discussions in the CTE remain exploratory at this stage.

Item 10: Appropriate arrangements for relations with intergovernmental and non-governmental organizations referred to in Article V of the WTO

The CTE initially extended observer status to inter-governmental organizations (IGOs) such as the UN Conference on Trade and Development (UNCTAD), the World Bank, the International Monetary Fund (IMF), the UN Environment Program (UNEP), UN Development Program (UNDP), the Food and Agriculture Organization (FAO), the International Trade Center (ITC), the Organization for Economic Cooperation and Development (OECD), and the European Free Trade Association (EFTA). The CTE has currently granted observer status to additional intergovernmental organizations, including the African, Caribbean and Pacific Group of States (ACP Group), Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), International Organization for Standardization (ISO), International Plant Genetic Resources Institute (IPGRI), Latin American Economic System (SELA), UN Industrial Development Organization (UNIDO), World Customs Organization (WCO), and World Intellectual Property Organization (WIPO).

In addition to links with IGOs, the Decisions of the WTO General Council of 18 July 1996 on "Procedures for the circulation and derestriction of WTO documents" and on "Guidelines for arrangements on relations with non-governmental organizations", WTO Members have agreed to improve public access to WTO documentation and to develop communication with NGOs. In recent years, the Secretariat has organized symposia on important WTO matters for representatives of NGOs and Member countries.

The WTO Secretariat has laid the foundations for providing timely public access to the proceedings of the CTE through issuing periodically its Trade and Environment Bulletin and for enhancing its contacts with NGOs concerned with matters related to those of the CTE, inter alia through the organization of informal meetings with NGOs. The CTE recommends that the Secretariat continue its interaction with NGOs, which will contribute to the accuracy and richness of the public debate on trade and environment.

Following the Decision of the General Council of 18 July 1996 on "Guidelines for observer status for international intergovernmental organizations in the WTO", the CTE has agreed to extend observer status on a permanent basis to those intergovernmental organizations which previously participated as observers on an ad hoc basis at CTE meetings. The CTE has extended observer status to all those intergovernmental organizations which have so requested, and the possibility exists on the basis of the General Council's Decision to consider future requests from other relevant intergovernmental organizations, including MEAs. Observer status of relevant MEAs in WTO bodies, as appropriate, can play a positive role in creating clearer appreciation of the mutually supportive role of trade and environmental policies. Requests from the appropriate bodies of MEAs for observer status should be considered in this light.

It is important to note that the CTE was established partly in response to the concerns of environmentalist NGOs regarding the impact of increased free trade on the environment. However, most international NGOs are based in wealthy states. The EU and the US – home to many NGOs concerned wit the environment -- are generally far ahead of the developing world in environmental standards. Not surprisingly, NGO platforms often draw suspicion from poorer trading partners, who tend to see Western idealism as a mask for protectionism. Environmental questions are further muddled as NGOs try to use trade restrictions to force trading partners to comply with unrelated domestic laws or international agreements.

Meanwhile, the role of NGOs in the ESCWA region is mounting, especially in the area of the environment. Environmental; NGOs exist throughout the region, in one form or another. However, Syria tends to limit their scope. On the other hand, this is somewhat balanced by stronger Syrian labor and professional syndicates.

2. *The trade-environment position of major trading economies: the case of the EU*

The marginalizing of environmentalists would run counter to deeper trends in the EU that recognize environmental issues, so the basic European position on trade and the environment is not dissimilar to that of the US. However, there is less emphasis on the role of NGOs and special interest groups. Speaking at the WTO High Level Symposium on Trade and Environment and in Geneva in March 1999 Sir Leon Brittan, then vice-president of the European Commission, identified the key to successful policy on trade and environment to be a coordinated approach to sustainable development. He indicated a preference for MEAs as compared to unilateral actions and stressed the need for confidence that WTO rules accommodate aims of Parties to MEAs. He said it was undesirable for each WTO Member to take whatever trade measures it sees fit, based on its view of the acceptability of the way in which products are made in other countries. He stressed the need to adopt a clear and workable approach to eco-labeling. On the precautionary principle, he said there was a need to give it greater definition and prevent it being invoked in an abusive way. (3)

Representatives of individual EU states also spoke at the meeting along similar lines. Those of Finland, stated that environmental considerations must necessarily feature in upcoming WTO negotiations, with key issues to include ensuring that eco-labels avoid disguised trade restrictions; France called for WTO rules to promote voluntary initiatives; and the UK said governments must avoid forging new protectionist tools. (4)

The EU balks at what it sees as US unilateralist arrogance in settling disputes. On the whole, the position of the EU and its individual states seems to be more accommodating than the US to ESCWA countries in general, and to Syria in particular. This is partly because of the EU's closer links with the region and the need to promote the Euro-Med process. There is also the feeling that no matter what the EU's position is, restrictive or otherwise, it will be more stable than the US and less subject to sudden changes due to domestic environmentalist pressures.

This will probably have no direct bearing on Syria's leather industry for the moment. However, Syria could under certain circumstances become active in the EU market. In that case, European sensitivities concerning environmental issues could become crucial for the success of Syrian leather product exports.

D. CONCLUSIONS AND RECOMMENDATIONS

1. *Conclusions*

There is no consensus in the CTE or elsewhere in IGO fora on how to proceed on trade and environment issues. Thus, it seems likely that, even if trade and environment were to become part of the agenda for the new round, this may be more of a continuation of the open-ended study program that could potentially lead to some clarifications of WTO rules. Although some kind of inter-governmental agreement may be desirable, it is not clear whether this should be in the specialized MEAs or in the WTO, which is becoming increasingly charged with new issues beyond its traditional competence. (1)

Though inconclusive on many counts, the work of the CTE in the past few years shows more than ever that trade and environmental policies cannot be isolated from each other. On the other hand, these policies also cannot be separated from the impacts of international debt, the need to alleviate poverty, the imperative to transfer technology or the general need to enhance the capacity of developing countries to face the challenges of sustainable development. States such as Syria that are still suffering from environmental weaknesses and at early stages of opening up their economies to globalization cannot be expected to rapidly develop their trade and environment systems regardless of the short-run consequences. To quickly impose the most sophisticated types of environmental care and protection and to rapidly liberalize trade rules may exacerbate rather than solve problems in the short term.

Transparency is of key concern to exporters. Some emerging environmental policy instruments may lack provisions regarding notification and possibilities for consultation with foreign producers. Access to information in the case instruments such as voluntary industry agreements and public procurement guidelines

may sometimes be difficult for foreign producers. The relatively strong reliance on voluntary measures may also affect transparency of and accountability for emerging environmental policy instruments.

Transparency and consultation in the formulation of environmental policies are fundamental. In this area, it would be helpful to consider mechanisms for enhancing the participation of developing countries in the formulation of such new measures so that concerns regarding quality and responsibility were taken into account.

Significant technological advances have been achieved in the leather industry during the past three decades, and in many countries tanning is no longer the noxious activity it once was. Unfortunately, this is still not the case in most of ESCWA, including Syria.

In the context of leather production, it has been mentioned in the CTE that better market access in this sector would permit increased production of value added, thereby increasing the potential for investment in cleaner technologies. One case study has found that the focus has shifted from the export of raw hides and skins to the export of higher value-added goods, such as shoes. (1) Trade liberalization can thus lead to the structural transformation of the leather industry in developing countries.

Urgent steps are under consideration to improve the environmental profile of Syrian leather industry. Concerned government authorities, IGOs, professional syndicates and others are involved in efforts to remedy the situation. However, the problem of introducing environmentally sound technologies into many SME tanneries requires particular attention. One of the major obstacles to satisfying the needs of the leather industry in the ESCWA member countries in general and in Syria in particular remains that SMEs have found it impossible to come up with enough capital to improve their process efficiency, output quality, and environmental profile.

2. *Recommendations*

1. There is a need for Syria and other countries that are not members of the WTO to participate more effectively in international deliberations and negotiations on trade and environment. Participation in the process of shaping trade mechanisms and rules to ensure sustainable development patterns and protection of their economic interests and environmental patrimony is vital for the countries of the ESCWA region.

2. Government bodies in Syria need to strengthen their permanent institutional structures and sustainable financial resources if they are to participate effectively in formulation of environmental policies, action plans and their implementation.

3. Environmental regulations applied by the commercial partners of Syria, particularly the states of the EU, to the country's potential or actual exports should be examined with regard to their potential effects on export prospects and their conformity with trade agreements. ESCWA member countries should undertake special efforts to ensure that the importance of this issue is fully understood by trade officials in international negotiations and by those involved in determining domestic policies aimed at export-oriented industries.

4. There is a need for better policy co-ordination at the national level. This requires co-ordination between different ministries as well as between the government and the private sector. NGOs, not a force In Syria, have a key role to play here. This work has helped to improve the understanding of the issues and may in so doing have helped to lower the temperature of the debate between governments and between NGOs and the WTO. Trade associations and professional societies also have an important role to play, as they already do in Syria, and should be encouraged to become more involved in environmental issues and to help members raise environmental awareness.

5. Links -- already quite strong in Syria -- should be further strengthened with the IGOs concerned with the environment and industry. Developments promoted and catalyzed by specialized agencies such as UNIDO and UNEP must be closely monitored.

6. Bodies concerned with the development of industry in the ESCWA member countries should disseminate and update information on standard methods of analysis in concordance with ISO guidelines. In particular, it is expected that the ISO 14001 standard will play an important role in international trade. This implies a greater effort by ESCWA countries to integrate environmental management into business policies in order to ensure continuous improvement of environmental performance. Participation in ISO 14000 provides a basis for certification of a firm's EMS, which may give greater credibility with financial institutions, insurance companies, regulators and consumers.

The records for 1997 for the ESCWA countries showed the following numbers of ISO 14000 certified companies: Egypt 7; UAE 4; Oman 1; and Saudi Arabia 1. By end-1998 the number of ISO 14000 certified companies in Egypt had increased to fifteen, (3) and three in Jordan had obtained certification. To say the least, this shows that the process of ISO certification still has a long way to go in the region, and in Syria in particular.

7. Empirical studies to support an analysis of the trade effects on developing countries of environmental policy instruments are scarce, and these should begin to be undertaken for the ESCWA region and for Syria in particular.

SECTION THREE
RECOMMENDATIONS

RECOMMENDATION SET ONE

I. The Arab Position Concerning Trade and Environment

- The Arab countries' position on trade and environment is based on the conviction of the importance of environmental and natural resources. It is based on the need to prevent the deterioration and depletion of resources, and the mutual benefit to countries as a result of environmentally sound management and conservation practices.

- It was emphasized that the principle of common but differentiated responsibilities between developing and developed countries should be the basis for implementing international conventions and agreements and for achieving sustainable development.

- Entities in charge of environmental affairs in the Arab countries have adopted policies, enacted legislation, and set environmental controls, guidelines and environmental management systems, to prevent environmental deterioration, control pollution and enhance the environment.

- Arab countries also joined Multilateral Environmental Agreements, attended the Earth Summit in Rio and are committed to its resolutions. Positive steps have been taken by Arab States towards the implementation of the Rio Declaration, with varying level of response depending on the availability of resources, capabilities and technical assistance.

- The Council of Arab Ministers Responsible for the Environment (CAMRE) plays an important role in mobilizing joint Arab efforts for the conservation of the environment.

- In September 1991, the Council approved the Arab Declaration on Environment, Development and Future Prospects, submitted to the Earth Summit.

- In May 1992, the Council approved the Arab programmes for sustainable development which are compatible with Agenda 21. These programmes will be implemented with available resources and in cooperation with Arab, regional and international organizations and in particular UNEP.

- The Arab countries are determined to continue their economic and environmental reform programmes, and the development of their capacities in order to enhance their competitiveness and improve their market access opportunities.

- The Arab countries are in full support of non-discriminatory, fair, and open multilateral trade rules under the WTO. They provide trade benefits and facilitate market access for developing countries. It is important to continue efforts to achieve these objectives and for the WTO to pursue trade liberalization and the opening of markets.

- Industrial countries have not fulfilled their international obligations, which is mainly represented in the decline of official development assistance. They also tend to link trade, investment and assistance with environmental standards. This undoubtedly puts additional strain on developing countries and limits their competitive advantage and market access opportunities.

II. The Arab position at the third session of the WTO Ministerial Meeting

It is premature to move from consultation to negotiations on environment related issues for the following reasons:

1. The CTE has not yet concluded the debate on any of the topics on its agenda.

2. No assessment of the extent of implementation of the WTO agreements, which include, environmental aspects and their impacts, particularly on developing countries, has been carried out.

3. The conclusion of a new environmental agreement under WTO may be contradictory with the provisions set forth in the multilateral environmental agreements (e.g. CBD, CCD, etc.)

4. There are a number of multilateral environmental agreements where developed countries have not yet met their commitments and obligations to developing countries.

5. Article 20 of the GATT, concerning the general exceptions from the WTO provisions constitutes an adequate framework though which trade and environment issues can be addressed.

In the case of some countries requesting discussion of environmental issues under WTO agreements, particularly the TBT, TRIPS, SPS, subsidies and countervailing measures, and trade in services, the Arab countries should raise such vital issues as the transfer of suitable technology, provision of adequate financial resources, fulfillment by industrial countries of their obligations, taking necessary measures for capacity-building and granting suitable grace periods for the implementation of agreements. The member countries should be assisted in the development of capabilities and capacities including training in legal, judicial and information aspects of Trade and Environment. Within this context, it is important to highlight the following points:

1. Technology Transfer

Technology transfer to developing countries is important, since it would be difficult for countries to comply with environmental standards, without it. While most of the multilateral environmental agreements emphasize the importance of technology transfer, realizing this objective encountered major obstacles resulting in lengthy discussions over long periods of time. There should therefore, be a clear text addressing the following:

- The need to transfer advanced and environmentally-sound technology to developing countries, should be in accordance with countries' needs and requirements. This process should also be linked with training and capacity-building, in order to enable developing countries enhance their national capacities to develop environmentally sound technologies.

- No to transfer old or obsolete technologies or polluting and energy- consuming industries to developing countries, which allows developed countries to fulfil their commitments in other conventions at the expense of developing countries.

- The provision of financial assistance to developing countries, while ensuring a balanced geographical distribution of these resources.

- Review of article 27.3b of the TRIPs agreement concerning exceptions of patents rights in a manner that fully complies with the provision of the International Convention on Biodiversity and guarantees the sovereignty of countries over their resources and the rights of indigenous people. The provisions of technology transfer in the TRIPs agreement should be implemented. Positive initiative must be taken by the industrial countries, as a gesture of goodwill, and in order to ensure the implementation of provisions related to various agreements following the principle of special and preferential treatment for developing countries.

- Small and medium size enterprises should be exempted from the provisions of the TRIPs agreement and from subsidy reductions needed to finance environmentally sound technology.

- The industrial countries are to adopt procedures and provide incentive to encourage the private sector to transfer technology to developing countries.

- The implementation of these measures should be mandatory, not voluntary.

2. Economic Instruments

Trade restrictive measures rarely achieve environmental objectives effectively. Instead, positive measures must be exhausted. In fact, trade sanctions as an ultimate measures are bound to harm the environment and are therefore considered counterproductive.

(a) Subsidies

A distinction should be drawn between subsidies. Not all subsidies should be eliminated, as they can fulfill important public policy objectives and can be non-actionable under WTO rules. Subsidies following national/regional objectives of sustainable development, e.g., for infrastructure development and SMEs, must be considered non-actionable following the rationale of non-actionable environmental subsidies.

- It is important to differentiate between direct subsidies and the role of government in making the society benefit from its natural resources and wealth.
- It is important also to differentiate between perverse subsidies and those designed to assist in adopting sustainable production methods.
- Subsidy removal should be accompanied by action from industrial countries to facilitate market access for developing countries and encourage their sustainable development efforts.
- Removing subsidies should not lead to discouraging or destroying small and medium size industries, as they are the backbone of growth in many developing countries.
- It should be noted that an overall removal of subsidy by industrial countries could lead to an increase in the cost of staple foods imported by developing countries.

(b) Taxes and charges

Environmental taxes and charges should not restrict competitiveness of developing countries in international markets. Necessary studies should be carried out to explore the possibility of using appropriate economic instruments and encouraging the shift to sustainable development programmes and policies in developing countries.

(c) Eco-Labelling

Eco-labeling should be considered as an environmental instrument, it should not be a technical barrier to trade.

- Eco-labelling is important in raising consumers' awareness to choose environmentally friendly products.
- The concept of eco-labelling should only be confined to the final product and not to non product-related processes and production methods. Transparency and mutual recognition should be the basis for granting eco-labels.

(d) Environmental Standards

- Environmental standards should not constitute unjustifiable discrimination for trade as reflected in the provisions of the TBT.
- Industrial countries should refrain from exporting domestically prohibited products, whether primary or intermediate goods, to developing countries.

- Any country or regional bloc should not set or apply their own standards to the exports of developing countries. Countries should be committed to international standards where all countries can participate in their development.

- Industrial countries should apply the Prior Notification Principle in exporting any industrial components that enter into a final product to be re-exported to them from a developing country.

- Industrial countries should support capacity building in developing countries, especially in building expertise and developing national laboratories accredited to inspect component and products.

- There is a need to encourage countries to sign mutual recognition agreements and to adopt comparable standards.

III. The Ministerial Declaration of the Seattle Session

The ministerial declaration should highlight the following:

1. Emphasis should be placed on the Rio principles stating that sustainable development is the right for each country and that countries have mutual but differentiated responsibilities in achieving sustainable development.

2. Confirming the commitment of the industrial countries to meet their obligations to facilitate technology transfer and provide sufficient additional financial resources.

3. Reiterating the Singapore Declaration, which confirmed that WTO is not another forum for environmental conservation.

4. The CTE should continued to perform its functions and implement its work programme. It is premature to transfer the topics under discussion in the CTE to the negotiating groups.

5. Encouraging capacity-building in developing countries, particularly in the use of market-based incentives, and enhancing technology transfer, market access and external funding for developing countries. Requesting international organizations, especially UNEP and UNCTAD to cooperate in the provision of technical expertise and resources necessary for capacity-building in developing countries.

6. Granting adequate grace periods in accordance with the needs of developing countries in order to enable them restructure their production processes and structure and secure necessary financial resources needed to meet environmental standards.

7. Reject unilateral action used by some countries for protectionist purposes.

IV. Preparing Arab Delegations for the Seattle Meeting and its Expected Outcome

1. Calling upon Arab countries to continue with their efforts to ensure coordination and cooperation among all relevant ministries and national bodies concerned with WTO activities, including civil society. Arab countries are also urged to include in their delegation's representatives from all concerned sectors, especially trade and environment experts as well as legal experts.

2. Calling upon the League of Arab States to form a three-expert consulting team to provide technical and legal support to Arab delegations participating in the Seattle meeting. The representative of the Islamic Development Bank expressed the Bank's readiness to bear the expenses of the participating technical team, in accordance with the Bank's adopted procedures.

3. Providing their Excellencies, the Arab Ministers taking part in the Seattle meeting with the results of this symposium, urging them to actively seek coordination with other relevant international entities in order to constitute a strong negotiating bloc within a framework of common interest and mutual benefit.

4. Emphasizing that the League of Arab States should obtain an observers status at the WTO.

5. Calling upon the Arab entities to benefit from the technical support provided by international agencies and funding institutions to undertake case studies on the impact of trade liberalization on industry, particularly small and medium size industries, and to raise the level or readiness of Arab negotiators to ensure their effective participation and follow-up of the forthcoming round of negotiations.

6. Calling upon the organizing entities of this symposium to maintain cooperation and communication with the relevant regional and international organizations, to hold consultative meetings, symposia and training course to enhance Arab capacity-building, as well as encourage the exchange of expertise and experience on trade and environment.

7. The thrust of adverse impact on oil trade and revenues is expected to be caused by MEAs rather than by MTS. Kyoto Protocol, as an MEA, calls for quantifiable goals for carbon emissions in developed countries. The abatement targets of GHG emission as envisaged by the Kyoto Protocol is likely to cause substantial oil export revenue losses for OPEC and non-oil countries. Although the impact of allowing trade in emission permits reduced the severity of these losses, they remain high. Joint management of relatively high oil price with non-OPEC oil exporting countries offers the most feasible route to mitigating the severity of losses incurred, together with a full global trading system that is unrestricted by capping.

RECOMMENDATION SET TWO

Recommendation Set Two has been produced for the benefit of ESCWA Member Countries.

I. Preamble

While endorsing all the recommendations of the Arab League Meeting dated 6-8 September 1999, and recognizing that the Expert Meeting provided empirical case studies in the region, specific recommendations for operationalizing selected issues were discussed. They focus on the following three objectives:

1. Offering recommendations for Seattle and beyond;
2. Examining trade and environment issues at the regional and national levels; and
3. Operationalizing selected recommendations within the context of the two objectives noted above.

II. Recommendations

1. International Negotiations

There is a need for ESCWA member countries to actively participate in the discussions and deliberations on trade and environment issues at the at the multilateral trade level, including MEAs, such as the Kyoto Protocol and the Convention on Biological Diversity

2. Coordination, Communication, and Information Exchange

There is a need to improve coordination and communication on trade and environment issues at the national, regional, and international level. This entails:

(a) Better coordination between ministries at the country level;

(b) Better coordination between ministries, private sector, and non-governmental organizations at the national and regional levels; and

(c) Better coordination between international organizations that provide technical assistance and capacity building programs in the region.

Special attention should be paid to communicating and exchanging information on technology transfer arrangements, particularly lessons learned from the application and adaptation of green technologies, as well as ways of gaining access to new technologies and processes.

3. Case Studies and Information Gathering

The issue of trade and environment will be acquiring an increasing significance in the days to come, especially now that most countries in the region are either members or aspiring to membership in WTO. Existing technical capability and institutional capacity at the country level are inadequate and need to be upgraded to cope with the new challenges. Governments and private sector actors in the region should make every effort to utilize the expertise available in regional and international organizations to develop their endogenous capacity to deal with issues related to trade and environment.

(a) Systematic and empirical approaches provide useful tools to institute environmental concerns in the development process. Governments in the region need to give such approaches serious consideration and government departments need to apply rigorous methods of environmental accounting in their operations.

(b) Studies should be undertaken and exchanged on priority economic sectors and priority policy issues for the region. There is also a need to pool resources to conduct these studies.

(c) There is a need to systemize Arab texts on trade and environment issues. There should be efforts to promote the Arabization of terminology and standards.

4. Capacity Building – Instruments and Assistance

The meeting appreciated the contribution made by international organizations to address trade and environment issues, but more coordination needed. Countries need to communicate to international organizations and organizations that support capacity building activities their priorities and needs to better address trade and environment issues.

There is the need to formalize communication and facilitate coordination between international organizations that provide capacity building/technical assistance services on trade and environment. A mechanism for coordinating activities in the field of trade and environment should be established between funding agencies that support such work in the region.

5. Legal Training

There is a need to provide legal training and judicial support training to the judiciary and law practitioners, since trade and environmental issues are new to the Arab region.

6. The Private Sector

The private sector should be actively involved in the formulation of strategies for increasing competitiveness within the framework of the WTO. Trade and environment issues are an important determinant of competitiveness. It is for this reason that there is an urgent need to alert small and medium enterprises of the upcoming challenges related to trade and environment, especially those engaged in export.

(a) There is a need to raise awareness of trade and environment issues in the private sector and to update their skills to meet environmental challenges.

(b) Small and medium sized enterprises should be a priority recipient of assistance on trade and environment issues.

7. Certification and Accreditation

There is a need to help companies adopt viable instruments and gain the capacity and know-how to adopt clear certification and accreditation practices.

There should be coordination at the regional level for accreditation and certification arrangements.

8. Eco-Labeling

In building upon the eco-labeling recommendations offered during the Arab League meeting in Cairo:

(a) Eco-labeling should be considered an environmental instrument; it should not be a technical barrier to trade.

(b) Eco-labeling should be confined to products, not production processes unrelated to final product characteristics.

9. Trade Sanctions

Trade restrictive measures rarely achieve environmental objectives effectively. Instead, positive measures must be exhausted. In fact, trade sanctions as an ultimate measure are bound to harm the environment and are therefore considered counterproductive. Governments should thus avoid the use of sanctions when negotiating or responding to trade and environment disputes.

10. Subsidies

A distinction should be drawn between subsidies. Not all subsidies should be eliminated, as they can fulfill important public policy objectives and can be non-actionable under WTO rules. Subsides following national/regional objectives of sustainable development, e.g., for infrastructure development and small and medium enterprises, must be considered non-actionable following the rationale of non-actionable environmental subsidies.

11. Petroleum Sector

The thrust of adverse impact on oil trade and revenues is expected to be caused by MEAs rather than by the multilateral trading system. The Kyoto Protocol, as an MEA, calls for quantifiable goals for carbon emissions in developed countries. The abatement targets of GHG emission as envisaged by the Kyoto Protocol is likely to cause substantial oil export revenue losses for OPEC and non-oil countries. Although the impact of allowing trade in emission permits reduced the severity of these losses, they remain high. Joint management of relatively high oil price with non-OPEC oil exporting countries offers the most feasible route to mitigating the severity of losses incurred, together with a full global trading system that is unrestricted by capping.

An Operational Approach

12. Operationalizing Communication and Coordination

(a) *National Nuclei on Trade and Environment*

We agree that there is a need to pursue national and regional strategies on trade and environment.

We recognize that countries need to prioritize their top policy areas and economic sectors at the national and regional levels.

For these reasons, we recommend that a National Nucleus (i.e., a national task force or committee) on trade and environment concerns should be established in each country in order to formalize long-term working arrangements.

(i) The National Nucleus should be composed of public and private stakeholders, including non-governmental organizations.

(ii) The National Nucleus would identify and prioritize the top issues that are relevant to the country. It should communicate these priority lists to international and regional capacity building organizations so that they may jointly find synergies on information gathering and capacity building needs at the national and regional levels.

(b) *Regional Task Force*

The National Nuclei should communicate and coordinate positions with one another.

(i) A Regional Task force on trade and environment should be established to propose and develop programs in support of capacity building at the regional and national levels.

(ii) This Regional Task Force would be comprised of national, regional, and international bodies, including members of civil society.

(c) *Coordinating Committee for Capacity Building Organizations*

A Coordinating Committee comprising of a few United Nations organizations (UNCTAD, UNEP, UNDP, and ESCWA) and international funding organizations (METAP/MedPolicies Initiative, MCSD, World Bank, EC) could be formed to coordinate technical and financial capacity building activities on trade and environment.

- The Coordinating Committee would work closely with the National Nuclei and Regional Task Force to develop outreach activities with national governments, public agencies, the private sector, and civil society, including non-governmental organizations.

(d) *Regional Meeting*

A Regional Meeting should be convened to assemble all National Nuclei and to formalize the Coordinating Committee for Capacity Building Organizations.

- The Joint Committee on Development and Environment of the Arab League will be meeting in Cairo in January 2000 and could be the forum for proposing the establishment of the National Nuclei, the Regional Task Force, and the Coordinating Committee for Capacity Building Organizations on trade and environment issues. National Nuclei and international organizations able to support trade and environment capacity building activities should attend the meeting.

13. The Private Sector

In order to assist the private sector, particularly the industrial sector, formulate strategies to increase their competitiveness in the face of trade and environment issues, a Technical Committee on Competitiveness should be established to approach the technical aspects of the issue objectively and practically. Sector studies should be conducted on:

(a) Local product specifications;
(b) International specifications required for each product;
(c) Technical measures needed to be adopted for reaching required specifications, particularly as they concern:

(i) Simple process modifications and/or optimization methods;
(ii) Technology upgrading;
(iii) Analysis and testing required for conformity with standards;
(iv) Certification;

(c) The estimated impact of the measures to be adopted on product cost.

Such studies will assist private sector actors and industrialists gain a clearer understanding of the issues and the concrete actions that need to be taken to respond to the challenge to their competitiveness.

3. Non-governmental Organizations

There is a need to establish a communication strategy between countries and non-governmental organizations (including private sector associations and academic institutions) that operate at the national, regional, and international levels. Open lines of communication with such organizations could support capacity building exercises and the provision of technical assistance on trade and environment.

ANNEX
FINAL REPORT OF THE EXPERT GROUP MEETING

Report

Expert Group Meeting on Trade and Environment
2-4 November 1999

CONTENTS

I. ORGANIZATION OF WORK
II. ACCOUNT OF PROCEEDINGS

A. Generic Issues
B. MedPolicies Initiative Case Studies
C. Case Studies

LIST OF ANNEXES

1. List of participants
2. List of documents
3. Programme of meetings

I. ORGANIZATION OF WORK

The Expert Group Meeting on Trade and Environment in the ESCWA member countries (henceforth the Meeting) was a concerted effort by the Economic and Social Commission of Western Asia (ESCWA), the MedPolicies Initiative of the Mediterranean Environmental Technical Assistance Programme (METAP), the United Nations Conference on Trade and Development (UNCTAD), and the United Nations Environment Programme (UNEP).

The Meeting focused on the issues that are being negotiated at the WTO Committee of Trade and Environment (CTE). It studied their impact on trade in the member countries of the ESCWA region. It drew conclusions and made recommendations on the basis of seven case studies covering the implications of issues negotiated at the CTE on: the mining sector in Jordan; the leather industry in Syria; oil industry in the ESCWA region; packaging in Egypt; textiles in Syria; and food industry in Lebanon. The Meeting also discussed three case studies prepared by MedPolicies Initiative on trade and environment which identified risks and opportunities for certain sectors in some ESCWA member countries caused by changes in environmental standards. MedPolicies Initiative's case studies included: Textiles in Egypt, Fertilizers in Jordan, and a multi-sector sensitivity analysis on trade and environment across the national economy.

A total of 55 participants attended the meeting, including representatives from ministries of environment, ministries of trade, chambers of commerce and the private sectors in the region. The meeting was also attended by representatives from international organizations such as the United Nations Conference on Trade and Development (UNCTAD), the United Nations Environment Programme (UNEP), The World Trade Organization (WTO), and the International Chamber of Commerce (ICC).

Two sets of recommendations were made at the end of the meeting. One set included recommendations for the consideration of decision makers in the ESCWA member countries. The second built upon the recommendations formulated in the Arab League meeting on "Trade and Environment" held between 6 and 8 September 1999 in Cairo. The recommendations were forwarded to the Arab delegates who will be participating in the Seattle meeting mentioned above.

The main issues and case studies discussed at the Meeting are presented below, as well as the two sets of recommendations that were concluded by the participants.

II. ACCOUNT OF PROCEEDINGS

A. GENERIC ISSUES CONCERNING ISSUES NEGOTIATED IN THE CTE

The generic issues addressed in the Meeting all underpinned the topic of trade and environment. The representative of UNCTAD presented the Trade and Environment debate elaborating on the North and the South viewpoints. He discussed the environmental concerns emanating from trade liberalization and those concerns with disguised protectionism and market restrictions under environment protection. He also showed how trade and environment could be mutually supportive and expounded the concept of sustainable development emphasized at the Earth Summit in 1992. The North, he argued, has the responsibility to provide market access, financial and technical assistance to the South to assist in capacity building. He then alluded to the forthcoming WTO Third Ministerial Meeting in Seattle which will be held by the end of November 1999. He expected the developed countries to ask for the inclusion of the environment to the Agenda of the Millenium Round Negotiations while developing countries will insist to exclude it. He emphasized the ministerial declaration that reconfirmed the objectives of sustainable development and the need to make trade and environment mutually supportive.

The second paper entitled "Green Dilemmas of the ESCWA Region: MEAs in the Trade and Environment Debate", discussed the significance of the Multilateral Environmental Agreements (MEAs) in addressing environmental problems. It investigated the different rates of MEAs in the trade and environment debate while drawing out the special implications for the ESCWA region. The paper outlined the varied role of MEAs especially the role of MEAs in the use of trade measures; dispute resolution; Trade Related Intellectual Property Rights and Transfer of technology; charges and taxes and eco-labeling, and

domestically prohibited goods (DPGs). The discussion that followed the presentation of this paper covered a broad range of item in the WTO work programme including the comprehensive nature of issues that arise in the context of MEAs.

The representative of UNEP's Regional Office for Western Asia (ROWA) in his emphasized the importance of the issues related to trade and environment and the significance of having the ESCWA countries engaged in dealing with them. He gave a brief presentation on the main issues discussed in the Arab Symposium on Trade and Environment which was held in Cairo between the period of 6-8 September 1999, and highlighted particularly the issues relating to the preparations for the WTO third Ministerial Meeting in Seattle in November 1999. He pointed out that the discussion covered trade and environment issues, the ministerial declaration, technological transfer, intellectual property rights, dispute settlement, and other potential challenges facing the developing world. He discussed the background to the recommendations made at the Symposium and suggested that the Meeting should build on those recommendations in the preparation for the Seattle meeting.

The representative of WTO stated that WTO acknowledges the mutual supportiveness between trade and environmental objectives. However, given the complexity of trade-environment linkages, the need for further discussions would be very much warranted. WTO, he argued, will have to continue to be wary of attempted encroachments of protectionist forces, which might come into the provisions under environmental banners.

It might, therefore, he added, be useful to illustrate the type of means and instruments that the WTO provide to find a balanced approach for the accommodation of legitimate environmental concerns on the one and the prevention of protectionist abuse or unjustifiable discrimination on the other hand. Three essential areas are were discussed to illustrate the difficulties in striking desired balance: (i) the possibility of trade measures to be challenged under the WTO dispute settlement mechanism; (ii) the "WTO-compatibility" of multilateral environmental agreements (MEAs); and (iii) the question of conformity of eco-labels with WTO rules.

A basic notion underlying WTO rules and disciplines as they relate to environmental policy is that members are essentially free to adopt environmental policies of their choosing. Members are expected, however, to follow basic principles, such as non-discrimination and non-use of quantitative import or export restrictions. Members may invoke GATT Article XX to derogate from these disciplines. When so doing, they have to demonstrate that the environmental measure falls under the exceptions contained in that Article, such as paragraph (b): "necessary to protect human, animal or plant life or health", or paragraph (g): relating to the conservation of exhaustible natural resources". They must also show that, in accordance with the headnote of Article XX, the measure itself is not an "arbitrary or unjustifiable discrimination between countries where the same conditions prevail, nor is it a disguised restriction on international trade".

The final paper in the first session was entitled "Trade and Environment: Seattle and Beyond" discussed the conflicting issues that emanate from interrelationship of trade and environment and the questions that are to be asked while attempting to bring the trade and environment systems closer together without undermining any. The paper states that the integration of trade and environment continues to an unlikely and strained goal prove with immense risks to developing countries and countries of the ESCWA region. It raises a number of questions and attempts to answer them. Several questions, however, remain open raising a wide range of controversies and conflicting views and calling for further in-depth work and empirical studies. Finally, the paper concludes that the Millenium Round of negotiations mandated the CTE to continue its work and study further the controversial issues of trade and environment with a view to proposing clear win-win opportunities where developing and developed countries alike will start to benefit. It added that developing countries cannot accept less than a balanced relationship between trade, environment, and development.

B. MEDPOLICIES INITIATIVE CASE STUDIES

The MedPolicies Initiative was the subject of the second session. This session included discussions aimed at assisting policy-makers to assess the impact that the changing environmental regulations can have on the international competitiveness of a country's major economic sectors. The session revolved around three case studies that were based on a practical and empirical approach; on a forward-looking model to support policy analysis and policy development.

The first MedPolicies Initiative case study was a presentation on the effect of environmental legislation on fertilizers exports in Jordan. The presentation revealed that European environmental health standards limiting cadmium content in phosphates-based fertilizers could reduce Jordanian exports by up to 8 percent. It emphasized the utility of using the model to show Jordanian policy-makers and the mining companies the significant impact environmental regulations may have on national exports in the absence of the application of adoption methods.

The second and the third MedPolicies Initiative case studies involved the findings of the preliminary phase of two new studies on Egypt and Syria. The discussions showed how the MedPolicies model could be used to assess the sensitivity of a country's main exports and import sectors to the changing environmental regulations. The studies aimed at assisting policy-makers to prioritize the sectors that are the most effected by trade and environment issues. The Egyptian textile and agro-food sectors were identified as possible sectors for examination noting that emerging environmental, health and labor standards should be taken into consideration. The Syrian study will finally examine four export sectors namely: cotton, cotton yarn, textiles and olive oil and three import sectors: chemicals for detergents and cleaning materials, detergents and medicine. The examination of these sectors will prioritize which industries are most susceptible to cost changes induced by environmental regulations.

C. ESCWA CASE STUDIES

Seven case studies were presented at the third session of the Meeting. They included "The Implications of the Issues Negotiated at the WTO Committee for Trade and Environment on: oil trade; the mining sector in Jordan; the Agro Food Industry in Lebanon; the Leather Industry in Syria; Packaging Practice in Egypt; the Textile Industry in Syria; and the ESCWA Member Countries: the cases of Egypt, Jordan, and Lebanon".

The case study on Oil Trade examined the link between energy use and emissions of carbon dioxide in the context of reduction scenarios such as those proposed under the Kyoto Protocol. It also examined the implications of environmental measures for oil exporting countries, and recommended policy options as to how these countries can maintain their revenue, while facing adverse repercussions.

The case study on the "packaging practice in Egypt" addressed one of the more pressing issues related to trade and environment debate. It tackled the relationship between the new packaging and labeling requirements for environmental purposes and their implications on trade activities of Egyptian manufacturers and exporters.

The case study on the Textile Industry in the Syrian Arab Republic assessed the impact of the CTE recommendations on the present situation of the textile industrial sector in Syria. The assessment took into consideration the key factors related to the textile industry of which: source of raw materials; the structure of the industry; production techniques and practices; the level of industrial development; and the distribution of the export markets. The case study also examined the position of Syria relative to the multilateral trading system since Syria is not a member of the WTO agreement. Finally, it identified the challenges facing the industry and produced recommendations for the textile industry in both the private and public sectors.

The "case study on the Leather Industry in the Syrian Arab Republic", showed that urgent steps are being considered to enhance the environmental profile of Syrian leather industry. Concerned government authorities, inter-governmental organizations, professional syndicates and others are exerting efforts to remedy the situation. The paper stated that the problem of introducing environmentally sound technologies

into many small and medium size tanneries requires particular attention. One of the main obstacles to satisfying the needs of the leather industry in the ESCWA region in general and in Syria in particular remains that small and medium enterprises find it impossible to raise enough capital to improve their process efficiency, output quality and environmental profile.

The Meeting presented the "Case Study of the Mining Sector in Jordan" which revealed that for the extractive industries the threat of environmental measures taken in their export markets is becoming greater. The case study investigated the mining sector in Jordan including cement, phosphates and potash, assessing the situation of the industry vis-à-vis environmental and health standards. It concluded that the lack of information and technical know how to assess the type and quality of chemical waste disposals of the mining industry made it difficult to formulate appropriate management policies and choose the right technology to deal with the problem. It recommended that Jordanian exporters must strive to acquire the scientific and technical capability to adapt their products to new regulations in their export markets. It recommended entering into consultative partnership with he governments and international and local NGOs that are addressing environmental and social issues.

The Case of the Agro-Food Industry in Lebanon discussed the impact of the WTO issues negotiated under its work programme on the agro-food industry in Lebanon. The case study discussed four cases of disputes in agro-food trade illustrating the dynamic of trade and environment issues in this sector. It analyzed the Lebanese agro-food industry in relation to some key factors such as raw material, production techniques and practices, the level of industrial development, and the distribution of export markets. The study ended by listing a number of recommendations to help the industry in light of the rising new environmental and health standards.

The last case study in this session was entitled "Implications of Issues Negotiated in the WTO Committee for Trade and Environment (CTE) for ESCWA Member Countries: The Cases of Egypt, Jordan and Lebanon". It discussed the most important CTE issues that are of concern to developing countries. It described the state of trade and environment in Egypt and the possible implications of the CTE issues on Egyptian trade. It recommended that Egypt should increase its already good efforts in dealing with the issues and that it should institutionalize trade and environment by establishing a unit where all concerned experts are found to extend services in this domain. As for Jordan, the study revealed that trade and environment has just started and that raising awareness about the issues is essential. Lebanon's situation regarding trade and environment was assessed indicating that there was little knowledge of the issues of trade and environment at the governmental level and that Lebanon has a high stake in promoting these issues to be able to benefit from niche markets in some export products if environmental standards are applied.

Annex I

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Annex II

LIST OF DOCUMENTS

- Implication of Environmental Measures on Oil Trade.

- Implications of the WTO Trade and Environment Committee Recommendations and Issues Under Negotiations on Trade in the ESCWA Countries: The Case of the Textile Industry in Syria Arab Republic.

- The Implications on Trade in the ESCWA Member Countries of the WTO Committee on Trade and the Environment Recommendations and Issues Under Negotiations: A Case Study of the Mining Sector in Jordan.

- The Implications on Trade in the ESCWA Member Countries of the WTO Committee on Trade and the Environment Recommendations and Issues Under Negotiations: A Case Study of the Leather Industry in Syria Arab Republic.

- The Implications on Trade in the ESCWA Member Countries of the WTO Committee on Trade and the Environment Recommendations and Issues Under Negotiations: The Case of the Agro-Food Industry in Lebanon.

- Implications of WTO Committee on Trade and Environment Findings on Packaging Practice in Egypt.

- Green Dilemmas of the ESCWA Region: MEAs in the Trade and Environment Debate.
Trade and Environment: Seattle and Beyond.

- Implications and Issues negotiated in the WTO Committee for Trade and Environment for ESCWA Member Countries: The Cases of Egypt, Jordan and Lebanon.

PROGRAMME OF THE MEETINGS
2-4 November 1999

Day One	Overview of Trade and Environment issues		
Tuesday 2 November	**First Session**	**General Framework**	**ESCWA Headquarters**
8:30 am – 9:00 am	Registration		
9:00 am – 9:30 am	Opening Remarks		
9:30 am – 10:30 am	Coffee Break		
10:30 am – 11:00 am	Integrating Environment and Trade: A worldwide view René Vossinar, UNCTAD		
11:00 am – 11:15 am	WTO Trade and Environment Committee Recommendations and Implications for Arab countries Zeki Fattah, ESCWA		
11:15 am – 11:30 am	The WTO Perspective on Trade and Environment Alexander Keck, WTO		
11:30 am – 11:45 am	Summary of Recommendations of the Arab League Regional Symposium on Trade and Environment – Cairo, September 1999 Mahmood Abdul Raheem		
11:45 am – 12:00 pm	Trade and Environment Experience of Arab countries Mohsen Helal, ESCWA		
12:00 pm – 12:15 pm	The Euro-Mediterranean Partnership Arab Hoballah, Mediterranean Action Plan		
12:15 pm – 12:45 pm	Discussion		
12:45 pm – 2:15 pm	Lunch		
Second Session	**MedPolicies Initiative Case Studies**		**ESCWA Headquarters**
2:15 pm – 2:30 pm	Introduction to METAP and the MedPolicies Initiative Carol Chouchani Cherfane, HIID		
2:30 pm – 3:00 pm	Analytical Framework for Examining Trade and Environment in terms of International Competitiveness Bruce Larson, HIID		
3:00 pm – 3:15 pm	Discussion		
3:15 pm – 3:30 pm	Single-sector Sensitivity Analysis: The Effect of Foreign Environmental Regulation on Jordanian Fertilizer Exports Yusuf Mansur, Jordan		

Day One	MedPolicies Case Studies (continued)
3:30 pm – 3:45 pm	Discussion
3:45 pm – 4:00 pm	Multi-sector Sensitivity Analysis of Economic Responsiveness to Changes in Environmental Regulation in Egypt and Jordan Alaa Ahmed Sarhan, Egypt
4:00 pm – 4:15 pm	Multi-sector Sensitivity Analysis of Economic Responsiveness to Changes in Environmental Regulation in Syria Hussam Morad, Syria
4:15 pm – 4:45 pm	Discussion
4:45 pm – 5:00 pm	Closing Comments

Day Two	Impact of WTO Trade and Environment Committee Decisions and issues of the on-going negotiations on trade in ESCWA member states

Wednesday 3 November	**First Session**	**ESCWA Case Studies**	**Holiday Inn-Galleria**
9:00 am – 9:15 am	Resume of Day One		
9:15 am – 9:45 am	Multilateral Environmental Agreements in the Trade and Environment Debate Veena Gha, UNCTAD		
9:45 am – 10:00 am	Discussion		
10:00 am – 10:15 am	Implications of WTO Trade and Environment Committee Recommendations for Selected ESCWA Member States I. Rita Fakhoury, ESCWA		
10:15 am – 10:45 am	Impact of WTO Trade and Environment Committee recommendations and ongoing issues of negotiation on trade in petroleum products in the Arab countries Hussain Abdalla, Egypt		
10:45 am – 11:00 am	Discussion		
11:00 am – 11:15 am	Coffee Break		
11:15 am – 11:45 am	Impact of WTO Trade and Environment Committee recommendations and on-going issues of negotiation on mining in Jordan Riad Khoury, Jordan		
11:45 am – 12:00 pm	Discussion		
12:00 pm – 12:30 pm	Impact of WTO Trade and Environment Committee recommendations and on-going issues of negotiation on agro-food products in Lebanon Envirotech, Lebanon		
12:30 pm – 12:45 pm	Discussion		
12:45 pm – 2:15 pm	Lunch		

Day Two	Impact of WTO Trade and Environment Committee Decisions (continued)	
Second Session	**ESCWA Case Studies**	**Holiday Inn-Galleria**
2:15 pm – 3:00 pm	Impact of WTO Trade and Environment Committee recommendations and on-going issues of negotiation on trade in textiles in Syria and Egypt Envirotech, Lebanon & Alaa Ahmed Sarhan, Egypt	
3:00 pm – 3:30 pm	Impact of WTO Trade and Environment Committee recommendations and on-going issues of negotiation on leather in Syria Riad Khoury, Jordan	
3:30 pm – 4:00 pm	Discussion	
4:00 pm – 4:30 pm	Impact of WTO Trade and Environment Committee recommendations and on-going issue of negotiation on packaging in Egypt Tarek Genena, Egypt	
4:30 pm – 4:45 pm	Discussion	
4:45 pm – 5:00 pm	Closing Comments	

Day Three	Conclusions and Recommendations		
Thursday 4 November	**First Session**	**Closing Discussion**	**Holiday Inn-Galleria**
9:00 am – 10:30 am	Conclusions		
10:30 am – 10:45 am	Coffee Break		
10:45 am – 12:00 pm	Recommendations		