Chapter I
Introduction

The nature of the multilateral and regional trading systems has changed dramatically since the conclusion of the Uruguay Round. After the significant decline in tariffs, quotas and other border measures, which were the main theme of negotiations for several years, attention shifted to the so called 'beyond the border' measures. This new orientation was clearly manifested in the mandate of World Trade Organization (WTO) which has expanded its focus to include a wide range of issues that are more complex and not necessarily having a direct link to trade, such as intellectual property rights, investment, government procurement, technical barriers to trade (TBT) and sanitary and phytosanitary measures (SPS). Though health and environmental (H&E) issues have not been explicitly included in the context of the WTO agreements, stringent environmental regulations and standards for the protection of humans, plant, and animal health and life are allowed under the SPS agreement, TBT agreement and Article XX of the GATT (Simpson and Chambers, 1999)[1].

On the regional level, the picture has been different where H&E issues are explicitly included in separate agreements associated with some regional trade agreements (RTAs) (like North America Free Trade Area Agreement, US-Bahrain and US-Morocco Free Trade Agreements). In fact, one of the main aspects that characterized the proliferation of RTAs in the 1990s is what Lawrence (1996) referred to as "deep integration" in the sense that they deal with beyond border measures like investment barriers, domestic rules and regulations together with border measures as tariffs. These issues have been coined as WTO plus issues as they are not covered by the new mandate of the WTO. Among the aspects that characterize the "deep integration" is the imposition of H&E standards adopted by developed countries on developing ones (OECD, 2002b).

The proliferation and increased stringency of H&E standards and their impact on trade has received considerable attention from exporters, regulators and trade negotiators. Several reasons were behind the increasing importance of such issues. These included the increasing concern about traditional food safety issues like microbiological contamination and pesticides residues as well as the high frequency of new potential health hazards associated with food consumption like the avian flu, and Bovine Spongiform Encephalopathy (BSE) disease which in turn raised the level of concern among consumers and governments especially in developed countries. This has been complemented by the increasing role played by environmental NGOs and lobbies; and the usage of such measures in some cases as non-tariff barriers (NTBs) replacing tariffs and quotas. The OECD has estimated that up to 80 % of all the world trade is affected by standards (Hufbauer et al, 2001). It has also been estimated that over 60 % of US exports are subject to health and safety standards (Wilson, 2002a). Moreover, Fontagne et al (2001) found out that half of the world trade is potentially affected by H&E trade barriers. They further estimated that about 40% of the exports of least developed countries are subject to such barriers. Such wide coverage of standards and their increasing stringency have triggered great amount of concern among developing countries which still lack the capabilities of complying with standards set by developed countries and/or cannot formulate their own.

In view of the above, H&E characteristics of products and production processes became recently an important criterion upon which standards and regulations are based. They are increasingly becoming a factor influencing product quality, international competitiveness and consumers purchasing decisions. Such requirements can be deliberately or unintentionally used as a tool of

[1] Other provisions dealing with the environment in the WTO include: Agreements on Trade Related Intellectual Property rights, Agriculture, and Subsidies and Countervailing Measures (*see Chapter II*).

protectionism. Unlike other technical standards and regulations, H&E requirements are less transparent and have a dynamic nature. They address various stages of the life cycle of a product starting from the products characteristics per se, the process and production method, till post-product stages like packaging and recycling. They are also diverse, in many instances an exporter could be faced by a wide set of those requirements that can be imposed at international, regional and national levels. This special nature of standards puts exporters in developing countries in a challenging situation (Abdel-Latif, 2000). As a result, their impact on market access and competitiveness of developing countries' environmentally sensitive exports has been at the forefront of policy debates.

The growing number of H&E related disputes and counter notifications raised by developing countries under the auspices of the WTO reflect the potentially impeding effect of such measures on their exports. The majority of disputes and counter notifications have been concentrated in food products especially fruits and vegetables. While the US, among developed countries, was the most frequently accused member in H&E related disputes, the EU was the most common member against which trade concerns or counter notifications have been raised. The trade disruptive effect of these measures is also gauged by the rising incidences of border detentions. For example there has been a large increase in the number of detentions for products entering the EU where the number of border rejections registered under the Rapid Alert System for Food and Feed (RASFF) increased more than 5 fold in 2004 (2588) compared to 2000 (473).

Literature has been inconclusive regarding the impact of standards in general and of H&E standards in specific on trade. Within the theoretical literature, a number of arguments were raised that viewed standards to be a source of competitive advantage for the complying firm or country, or a source of a competitive disadvantage either for domestic producers due to the relatively high cost they have to bear or for foreign firms if standards encompassed a degree of "regulatory capture" to protect domestic industries from foreign competition. For each of those arguments the empirical literature is neither supportive nor denying. In general, the impact of H&E measures in importing countries on imports and exports ranged from being significantly negative, significantly positive to non significant at all. The impact significantly differed according to the methodology adopted, the mean by which the stringency of the standard was measured, and the sector and the product under study.

Focusing on the Euro-Mediterranean region, concerns about the effects of H&E policies on exports have been increasing as Partnership Agreements with the European Union (EU) are negotiated and completed. The EU proposed model for regional integration with a large set of developing countries has included some elements of deep integration as competition policy and intellectual property rights' laws and regulations to be adopted by their developing partners. Nevertheless, the situation is different as far as standards in general and H&E standards in specific are concerned. Technical cooperation and capacity building for protecting and preserving the environment and upgrading standards and conformity assessment related institutions are the basic issues that those agreements focused on from this perspective. Moreover, EU-Med agreements include provisions calling for streamlining standards and lowering the heterogeneity of standards and conformity assessment procedures among its members. However, no clear programs or dates exist for implementing such goals. Thus, the EU-Med agreements are rather relatively vague as far as standards setting and adoption are concerned.

The study focuses on one of the South Mediterranean countries that has intensive trade relations with the EU and which a number of its agro-food exports has been subject to H&E measures in the EU that affected negatively their market access. A relatively limited number of studies tried to assess the impact of H&E standards on Egyptian exports, however none addressed the impact on

agro-food exports in spite of the high relevance of the subject to this sector nor attempted to test the impact quantitatively. From this perspective, agro-food sector in Egypt is an understudied sector where no empirical study was conducted to assess the impact of foreign H&E regulations on its exports in spite of the relative important role it plays in the Egyptian economy. Agro-food sector, encompassing agricultural and processed food products, is vital in terms of generation of value added, output, and employment. Agriculture and processed food account for 29% and 18% of the workforce and manufacturing employment in Egypt respectively. Moreover, the agricultural sector accounts for 16 % of Egypt's GDP while food processing industry enjoys the highest rank regarding generation of value added where it contributed by 19.8% to total manufacturing value added. Agro-food exports constitute a relatively high percentage of total non-oil exports where they presented about 17% in the year 2004. Further, they have recently experienced relatively high growth rates reaching 17% and 52% for agricultural and processed food exports in 2004 respectively.

The study attempts to assess the impact of foreign H&E standards on trade from a developing country perspective, taking Egyptian agro-food exports to the EU as the main framework of analysis. Several factors underlie the choice of Egyptian food exports and EU H&E standards. First, Egypt's main trading partner is the EU where it ranked the first market accounting for about 45% of total exports and the second market importing agro-food products accounting for 30% and 22% of agricultural and processed food exports respectively. This implies that studying the impact of imposing H&E standards on agro-food trade flows from Egypt to the EU is analogous to studying the impact of the H&E standards on the majority of Egyptian exports due to the high geographic concentration and the high percentage such products account for in the structure of Egyptian exports. Second, Egypt's exports' structure is highly similar to a large set of developing countries whose main trading partner is usually a developed country. Most of the Egyptian exports are concentrated in products where most of developing countries enjoy a comparative advantage (e.g. textiles and agriculture). Finally, the EU is a good example for developed countries which imposes relatively strict H&E standards that can be either legitimate or acting as a non-tariff barrier. The increasing strictness of the EU from this perspective can be attributed to the on-going process of harmonization of H&E regulations within the Community which has often resulted in the adoption of the highly stringent standards compared to international guidelines. This is augmented by the fact that the EU has more frequently applied the 'precautionary principle' when adopting certain standards which initiated a number of debates over the scientific basis for these measures (Jaffee and Henson, 2004). All such factors contribute to the choice of Egypt in its trade relations with the EU as a proxy for the developing- developed countries trade relations and the potential frictions likely to arise when H&E are brought into the scene.

Hypothesis and Objectives of the Study

The main hypotheses that the study tests is that H&E measures applied by the EU constrain and negatively affect the performance of Egyptian agro-food exporters, and are used as a disguised tool for protection or in other words, as a form of a non-tariff barrier.

The objective of the study is threefold. *First*, to understand the extent to which agro-food exports to the EU are subject to H&E trade barriers. *Second*, to investigate the impact that H&E standards imposed by the EU could exert on the export performance of Egyptian firms in the agro-food sector. *Third*, to understand the weight of the protectionist component in SPS standards, specifically those which are considered problematic for certain Egyptian agricultural exports to the EU.

Methodology

To address the first objective, an inventory approach is adopted to measure the extent of agro-food exports to the EU that are subject to trade disruptive SPS standards. This is undertaken by measuring the frequency and trade coverage ratios expressing the percentage of the number of agro-food products and the value of agro-food exports affected by EU notifications and/or detentions respectively. The second objective is tackled by analyzing the results of a firm-level survey in agro-food sector. The survey is confined to exporters of fresh and processed fruits and vegetables knowing that these products account for 77% of Egyptian agro-food exports. To understand the impact of EU H&E standards on firms' export performance, the results of the survey are analyzed descriptively and quantitatively. In the descriptive part, the indicators used to assess the impact are: degree of H&E awareness, cost of compliance, degree of exposure to market access restrictions due to non-compliance with such measures, and the relative weight of the measures within export impediments. The quantitative analysis encompasses two steps. First, factor analysis is utilized to reduce the number of variables within three groups of variables representing H&E awareness, cost of compliance and market access restrictions, and domestic impediments. Consequently, a number of factors is extracted within each dimension. Second, those factors in addition to the firms' characteristics act as the independent variables (covariates) in a regression analysis. The regression analysis is a binary logistic one where the dependant variable is a categorical variable expressing the export performance of firms.

The third objective focuses on analyzing the impact of two problematic standards that affected Egyptian agricultural products to the EU, namely the brown rot and aflatoxin measures. For each case, the relative importance of the product for the Egyptian economy, the frequency and intensity of measures that the EU imposed on the product and the Egyptian responses to such measures are elaborated. To test if the EU measures are considered an NTB or a genuine SPS measure, a number of hypotheses are examined in each case study. The case studies tested a set of hypotheses derived from the conceptual framework used in the study. Such hypotheses are tested for each case utilizing secondary trade and interceptions data.

Importance of the Study

In view of the above, several facts pinpoint the relevance of the study:

1. *Inconclusiveness of the literature:* fulfilling the aim of the study would tackle the inconclusiveness in the empirical literature regarding the specific impact of H&E measures on exports of developing countries and their related costs or benefits. The study would also help in understanding if H&E standards present real constraints in the face of the vital exports of developing countries or if this argument is oversold and that standards can even enhance their export performance.
2. *Tackling concerns of developing countries:* The impact of stringent H&E standards is widely discussed in the region, yet, there has been little empirical evidence analysing the impact on exports of key sectors (Larson et al, 2002). A very limited number of studies has been applied on the Egyptian economy. Most of them lacked having a quantitative orientation and none of them addressed the impact of H&E standards on the agro-food sector despite its high sensitivity from this perspective. Estimating the relative weight of cost of compliance to H&E standards within the production cost structure and analysing its main components are not common in the existing literature, although it is crucial in order to understand the impact that environmental measures would have on trade. The study is expected to help in this regard. Understanding the major factors, whether institutional or technical, that could deter firms from complying and from attaining the benefits of complying is worth investigating to have a clear view of the linkages between H&E measures and trade.

3. *Deficiency in the empirical literature:* the literature lacks the type of analysis which introduces clear criteria for defining standards as NTBs that unravels the unclear boundaries between the disguised protectionist intention of standards and their genuine H&E protection aims. The two case studies proposed in the study are expected to help in this regard. The case studies would also help to draw some policy suggestions that would act as future action plans for developing countries to prevent the abuse of standards by their developed trade partners.

Structure of the Study

The thesis is divided into two main parts, a theoretical/descriptive part and an empirical part. Each of the theoretical and empirical parts is divided in turn into three chapters. Chapter II reviews the development of H&E concerns within the MTS as well as within RTAs. Chapter III presents the theoretical and conceptual framework of the thesis. The chapter focuses on the theoretical arguments existing in the literature addressing the way by which standards can affect international trade. It also presents the conceptual framework for the study where it reviews the rationale and various types of standards. Most importantly, based on the available literature, the chapter proposes certain criteria for classifying standards as NTBs that would be empirically tested in the empirical part of the study. Chapter IV provides an extensive literature review for the various empirical studies assessing the impact of standards on trade, classified according to the methodologies employed.

Chapters V, VI and VII present the empirical part of the study. Chapter V provides an overview of the agro-food sector in Egypt and outlines the institutional framework covering H&E and food safety regulations prevailing in the Egyptian economy and in the EU. The chapter assesses the extent to which Egyptian agro-food exports to the EU are subject to SPS trade barriers. Chapter VI investigates the impact that H&E regulations and standards can exert on firms' export performance. This is addressed by conducting a firm level survey covering 34 exporters in the agro-food sector. Descriptive and econometric analyses for the results of the survey are conducted. Chapter VII analyses the impact of two problematic SPS standards imposed by the EU that faced vital Egyptian agricultural products. To identify if those standards act as NTBs or as genuine legitimate measures, criteria derived from the conceptual framework introduced in Chapter III are tested employing an analytical approach utilizing secondary trade and interceptions data. Finally, Chapter VIII concludes the whole study and draws some policy suggestions.

Chapter II
Development of Health and Environmental Concerns in Different Trade Arrangements

2.1 Introduction

Trade-environment debate is not recent, yet its prevalence and strength in the multilateral trading system (MTS) increased significantly in the last two decades. In fact, there is no agreement in the literature on the exact starting point of the trade-environment debate within the context of the MTS. Whereas some argue that it dates back to the year 1972 during which the Stockholm Conference on the environment was held (APEC, 2002; WTO, 2004b), others regard the Tuna-Dolphin dispute in 1991, which heightened the international attention to the trade-environment linkages, the real starting point that fueled such a debate[2]. Others consider the establishment of the World Trade Organization (WTO), as the real genuine starting point of the formal inclusion of environmental matters under the auspices of the MTS (Simpson and Chambers, 1999). Finally, some views consider the protection of human health and the environment an embedded goal, though in an implicit form, in the MTS since the establishment of the General Agreement on Tariffs and Trade (GATT) in 1947 (OECD, 2002b).

This chapter reviews the development of health and environmental (H&E) concerns within the MTS (section 2.2) as well as within other trade settings like regional trade agreements (RTAs) (section 2.3). Section 2.2.1 traces the different stages of the development of environmental concerns in the context of MTS in a chronological order and the associated institutional aspects that accompanied such developments. Section 2.2.2 elaborates on the environment-related trade provisions in GATT Articles and WTO agreements. Section 2.2.3 provides an overview of H&E related disputes which have been raised under the GATT and WTO frameworks. Section 2.3 illustrates how H&E concerns are dealt with in RTAs in contrast with the WTO giving some illustrative examples and ending with a brief review of some of the RTAs which Egypt is a member of. Section 2.4 concludes and summarizes the main findings.

2.2 Health and Environmental (H&E) Concerns in the Multilateral Trading System

2.2.1 Chronological Survey of H&E Concerns

Two factors contributed to the inclusion of environmental issues in the context of the MTS. *First*, developments on the environmental fora had its sizeable implications on the working of the GATT/WTO. This is evident from the development of different institutions, in the form of working groups, committees and decisions addressing trade-environment issues in the GATT/WTO. *Second*, pressure from Western non-governmental organisations (NGO's) and developed countries governments to have the environment added as a mainstream issue in the WTO and to amend WTO agreements to permit trade restrictions on environmental grounds played a crucial role in introducing the topic in the MTS (APEC, 2002; OECD, 2002b).

[1] This dispute was initiated by the compliant held by Mexico against the US ban on tuna imports from countries which did not impose controls on tuna fishing boats to minimize the incidental kill of dolphin like the controls the US applied domestically.

The Seventies

In the early 1970s, there was growing international concern regarding the impact of economic growth on social development and environment. This led to the *1972 Stockholm Conference on the Human Environment.* The GATT Secretariat contributed to this conference with a study concerning the impact of industrial pollution measures on international trade which reflected the concern of trade officials that such policies could become obstacles to trade (WTO, 2004a; Simpson and Chambers, 1999).

Institutional Aspect

As a response to this development in the environmental arena, a mechanism capable of addressing the implications of environmental measures on international trade was needed. Subsequently, in 1971, it was agreed upon to establish a *Group on Environmental Measures and International Trade,* commonly known as EMIT Group under the context of the GATT (WTO, 2004a). This was the first institutional framework addressing environmental issues within the GATT (Simpson and Chambers, 1999). The main mandate of the group was to examine, upon request, any issues relevant to trade measures having environmental rationale that could have a significant impact on the contracting parties. In particular, the group's task was to consider the impact of environmental measures on international trade, the relationship between the rules of the MTS and the trade provisions contained in Multilateral Environmental Agreements (MEAs), the transparency of environmental regulations having potential trade impacts, and the trade effects of new packaging and labeling requirements aimed at protecting the environment[3] (Jha, 2002; WTO, 2004a; Simpson and Chambers, 1999). The Group was not planned to meet except only upon request which never happened in the next twenty years and therefore the group remained idle (WTO, 2004a). Moreover, the task of the Group has been restricted to analyze and examine the issues within its mandate and not to tackle any prescriptive policy conclusions. Participation in the Group was not obligatory (Simpson and Chambers, 1999). This reveals that there were no serious efforts to thoroughly deal with environmental considerations within the MTS during the seventies.

During the Tokyo Round (1973-1979), the extent to which H&E standards and regulations could form trade barriers was dealt with in the "Standards Code". This was a plurilateral code. The code was not highly supported and had limited number of signatories. It covered technical requirements related to quality, food safety, and animal and plant health measures, including pesticide residue limits, inspection requirements and labeling (CUTS, 2003). The code called for non-discrimination in the preparation, adoption and application of technical regulations and standards. Moreover, it encouraged signatories to adopt international guidelines as a basis for their technical regulations and standards. It also required achieving transparency in the preparation, adoption and application of standards and regulations and recommended signatories to recognize each others regulations, standards, tests and certificates (WTO, 2004b; CUTS, 2003). Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) Agreements are built upon this code (*see section 2.2.2.2*).

The Eighties

In the eighties environmental issues were not a priority on the agenda of the MTS. The only case where environmental hazards were raised again in the GATT was the issue of domestically prohibited goods (DPGs). In 1982, a number of developing countries expressed their concern regarding such goods which refer to those products prohibited in developed countries on the grounds of environmental hazards, or for health or safety reasons, and were still exported to them. Developing countries having limited information on these products and lacking the technical

[3] This was the first time such issues were addressed in the MTS.

capacity to identify and examine such goods were unable to make informed decisions regarding their imports (WTO, 2004a). Consequently, some kind of rule of conduct regulating trading in such goods was needed to be included in the GATT framework.

Institutional Aspect

At the 1982 Ministerial Meeting of GATT contracting parties, it was agreed that all contracting parties notify the GATT of any goods produced and exported by them which were banned by their national authorities for sale in their domestic markets either for health or environmental reasons. A notification system was set up following this Decision, but parties did not use it in an appropriate manner and tended to notify DPGs whose export had also been prohibited, rather than the ones which they continued to export. Consequently, the notification system failed and notifications stopped after 1990 (WTO, 2004b).

In 1989, a Working Group on the Export of DPGs was established in GATT. However, no agreement regarding trade in such goods and other hazardous substances was reached. Subsequently, the Group was abolished in 1991 (Simpson and Chambers, 1999).

The Nineties

In 1991, the EMIT Group was activated as a result of several factors. First, the European Free Trade Association (EFTA) countries, which were concerned about the relationship between environmental policies and the rules of MTS, requested the EMIT Group to meet in order to deal with potential problems arising from the heterogeneity of environmental policies adopted across contracting parties. Second, its activation was driven by the developments in the international environmental arena where the GATT was requested to contribute to the 1992 United Nations Conference on Environment and Development (UNCED) (known also as Earth Summit) (Simpson and Chambers, 1999). Third, the Tuna-Dolphin dispute between Mexico and the US regarding restrictions that the latter placed on tuna imports to protect dolphins, prompted the Group and it started to examine trade-related aspects of environmental policies that might have trade significant effects for GATT contracting parties (Jha, 2002).

More importantly, the nineties witnessed a dramatic change in the MTS in terms of explicitly including the protection and preservation of the environment as one of its mandates. The objective of "raising standards of living and ensuring full employment" by allowing for optimal "use of the world's resources" was referred to in the preamble of the GATT (1947) as well as in that of the GATT 1994 which was concluded in the Uruguay Round. According to the GATT (1947), eliminations of discriminatory practices and lowering traditional trade barriers were seen to be the main route to achieve this goal. The GATT 1994, under the auspices of the WTO, added a new dimension of achieving "sustainable development" and "to protect and preserve the environment" (WTO, 2002d). This was the first formal and explicit inclusion of such new concepts in the context of the MTS (Jha, 2002).

The new orientation of the MTS can be regarded as an implication of the developments on the environmental fora. The UNCED 1992 declarations paved the way for introducing environment in the trading system. Participants in the conference concluded that GATT should play its full part in ensuring that policies in the field of trade and environment and sustainable development were compatible and mutually fortifying (Simpson and Chambers, 1999).

At the Singapore Ministerial Meeting 1996 several developments resulted in stronger linkage between trade and environment. Among the most important of which was activating the role of the Committee on Trade and Environment (CTE) and clarifying its goals and mandate. This basically covered assisting developing countries in identifying environmentally friendly products

and developing export markets for them. In addition, one of the CTE goals in Singapore Meeting was to generate resources that could be applied to implement sound environmental policies (Simpson and Chambers, 1999; WTO, 2004b).

As a result of the strong initiatives included in the Singapore Ministerial meeting, the issue of trade-environment linkage was revitalized where the number of activities increased significantly, in terms of meetings, seminars and technical cooperation projects (Tay, 1999). However, in Seattle Ministerial Meeting 1999 there was a backslash where developing countries resisted the pressures of the US and EU to include environmental issues within the framework of the WTO. This was partially a reaction towards developed countries' attitude of neglecting the concerns of developing countries and not fulfilling their commitments specifically regarding the better market access for developing countries' exports of textiles and agriculture.

Institutional Aspect

Two Decisions were adopted in 1994 which addressed environmental issues; the Marrakesh *Ministerial Decision on Trade and Environment* and *the Decision on Trade in Services and the Environment*. The first established the Committee on Trade and Environment (CTE) and included its work program. The second instructed the CTE to examine and report on the relationship between trade in services and the environment in order to investigate the need to undertake amendments to the General Agreement on Trade in Services (GATS) (item 9 in the CTE mandate, see below) (WTO, 2004b).

The CTE is the analogous institution that replaced the EMIT in the WTO. In principal, the CTE had the same aim like that of the EMIT of identifying the relationship between trade and environmental measures. However, the CTE objective was augmented by the new orientation of the WTO of promoting sustainable development. Basically, the main aim of the CTE has been to make international trade and environmental policies mutually supportive to promote sustainable development. Compared to the EMIT, the CTE was given more delegations by being responsible for the task of identifying the provisions needed to be amended to incorporate this new orientation. However, like the EMIT Group, its decisions or recommendations are not binding (APEC, 2002). Nevertheless as argued by some commentators, the CTE discussions played an important role in delineating the relation between trade and environment (Jha, 2002). The CTE's work was mainly initiated by submissions from WTO Members concerning issues they need the committee to comment on, which can be then submitted to ministerial conferences (Jha, 2002). The items forming the mandate of the CTE are listed in Box (2.1).