Chapter 2:

Environmental Sanctions and Environmental Standards in International Trade
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2.1 Introduction

It has been noted in the introduction that the incidence of environmental measures (both sanctions and standards) might act as a barrier on the exports of the developing countries. The introduction has also differentiated between the two types of sanctions imposed on a country, namely – multilateral and unilateral. In the current chapter, the route of both multilateral and unilateral environmental sanctions and standards, and their trade implications are discussed.

The multilateral environmental measures on trade could be imposed through several Multilateral Environmental Agreements (MEAs), the forum where many developed and developing countries currently participate. The MEAs generally decide an agenda on a particular environmental front and put sanctions on the domestic / trade policies that are contradictory to fulfillment of this agenda, including sanctions on non-Member countries as well.

While the MEAs are primarily concentrating on the environment front, the World Trade Organisation (WTO) is the multilateral body to liberalize global trade flows. The unilateral imposition of environmental measures by WTO Member countries however holds an interesting perspective here. Owing to their WTO obligations, the trade sanction policy of one Member country on another Member on environmental grounds needs to be reasonable and based on scientific evidences. Otherwise, the country facing an environmental sanction reserves the right to move to the Dispute Settlement Body (DSB) of the WTO against the sanction-imposing country, which may ask the latter to reverse it.

The current chapter is organized along the following lines. First an introduction to select MEAs with trade provisions is provided. Second, the inter-linkage between trade
and environment provisions within the WTO framework is discussed, which is then followed by a note on the potential conflict areas between MEA-permitted environmental sanctions and the multilateral obligations of a WTO Member country. A literature survey is provided next on the impact of the environmental sanctions and standards on trade, narrating both global and the Indian experiences.

2.2 Provisions for Environmental Sanctions in International Trade: The Multilateral Environmental Agreements

An environmentally sensitive category product might have pollution implications on two grounds. On one hand, it might be production-based. In this case, the bulk of pollution/environment deteriorating activities are generated during production, i.e., in the country of origin. Hence the importing country may not directly suffer from it, until and unless the pollution is transboundary in nature, thereby affecting global welfare. In that case the developed country/countries take(s) recourse to sanctions. Otherwise if the pollution generated in the developing country is not transmitted across borders, the developed country might encourage the developing countries to produce it within their territories and slowly phase out the same in its own territory (Pollution Haven Hypothesis or PHH).

On the other hand, the environmental effect could otherwise be consumption-based in nature. Here the product might contain some harmful elements which directly affect the final consumers, or the remnants of the consumed product are harmful to the local environment, or both. In that case the ill-effect is borne by the destination country rather than the country of origin. The developed countries are directly affected by these kinds of environmental effect and are more prone to impose trade policies here.

Although protection of local environment is the responsibility of the national Governments, the particular nature of pollution to reach other regions through either of these two means calls for agreement on global codes to be followed. For instance, it can be argued that increasing volume of international trade may cause the adverse effects of local pollution to go beyond the national borders through the goods or services delivered.
Moreover, pollution of the natural resources (oceans, rivers etc.) through operations of the business entities may carry the pollution load to other countries on one hand, and threatens the wildlife or the aquatic life and the environment on the other. In order to respond to these environmental challenges, several MEAs have come into force under the United Nations Environment Programme (UNEP) as the suitable institutional mechanisms. The MEAs can create a credible international monitoring system (Swanson and Johnston 1999), due to which the threat of imposing sanctions in case of production-based environmental challenges work out. On the other hand, the consumption-based environmental challenges could be addressed through WTO forums, so that the attempts of the countries in this regard do not lead to creation of trade restrictive policies.

While some of the MEAs are purely regional in nature, covering the interest of a handful of countries located in one particular geographical area (e.g. – Barcelona Convention), the membership of other agreements is quite extensive. There are around 300 MEAs, among which about 30 (i.e., only around 10 percent) address the trade-environment interface (WTO 2001; CUTS 2002). Among these thirty MEAs, six are of particular importance. They are: Convention on International Trade in Endangered Species (CITES) (1975), Montreal protocol on substances depleting ozone layer (1987), Basel Convention on transboundary movements of hazardous wastes and their disposal (1992), Cartagena Protocol on Biosafety (2000), Rotterdam convention on the prior informed consent (PIC) procedure for certain hazardous chemicals and Pesticides in International Trade (1998) and Stockholm convention on elimination of production, use, import and export of 12 Persistent Organic Pollutants (POPs). The trade obligations under these MEAs have comparable provisions under Article XX of WTO and SPS-TBT agreements (Sawhney 2004b). India’s participation in some important MEAs with trade implications is summarized in Annex 2.1. While some of these MEAs work effectively, others are relatively weak (Barrett 2003).

While some of the MEAs are trade-based and hence directly influence international trade, the other MEAs bear an indirect influence on it. For instance, CITES, the Basel Convention or the Rotterdam convention fall under the first category. On the other hand, the Montreal protocol, the Global Programme of Action (GPA) for the
protection of the Marine environment from land-based activities or Kyoto Protocol for reducing the greenhouse gasses that cause climate change come under the second group. Here, the discipline on the productive activities for ensuring compliance with the relevant MEAs affects trade in the long run. The MEAs also enshrine dispute settlement provisions within them.

The trade regulating provisions under MEAs are worth mention here. For instance, CITES encourages international cooperation for protection of certain species of wild fauna and flora against over-exploitation through international trade. For that purpose, international trade is regulated (through scientific assessment / certification requirements) on the basis of three agreed upon lists, where a particular species (animals / birds) is put depending on the potential threat of its extinction. If a country is found in violation of the provisions, the CITES Secretariat recommends to put sanctions on select product groups / all commercial trade, depending on the gravity of situation.5

Under Montreal Protocol the focus is on restraining spread of ozone-depleting substances (ODS). The objective is achieved by imposing ban on export of used, recycled and reclaimed quantities of the substances, other than for the purpose of destruction. A number of non-parties acceded to the protocol for avoiding trade restrictions (Krueger—2000).

The Basel Convention controls the trans-boundary movement of hazardous wastes, for encouraging treatment and disposal of hazardous wastes near the waste generation point. In March 1994, the Members agreed to ban OECD export of hazardous wastes intended for final disposal to non-OECD countries. A decision to ban the export of wastes intended for recovery and recycling by 31 December 1997 was also arrived at. The Secretariat currently keeps tab of the compliance status in the Member countries.

The Cartagena Protocol is concerned with safe transfer, handling and use of living modified organisms (LMOs) that may have adverse effects on biological diversity and pose a risk to human health. The protocol incorporates the possibility to imposing trade

5 The complete list of countries currently facing trade sanctions could be seen from the CITES web-site.
ban on imports on the ground of precautionary principles (i.e., lack of scientific evidence not restricting adoption of environment-protecting measures in case of irreversible damage) or in case of non-compliance of the Members with their trade obligations.

The Rotterdam Convention on hazardous chemicals (through labeling standards etc.) incorporate export ban on extremely hazardous chemicals, and export notification for domestically restricted chemicals. The Secretariat regularly monitors the actions by Member countries.

The Stockholm Convention on Persistent Organic Pollutants impose production, import and export restrictions on chemicals listed in their Annex A, apart from the purpose of ensuring environmentally sound disposal (Sawhney 2004b). The Secretariat undertakes a periodic review of the compliance status of the Member countries.

The responsibilities of the Member States under some MEAs might differ from each other, which might create discontents and conflicts among Members in the long run. For instance, developing countries like India under the Kyoto Protocol are Members but have no obligation beyond monitoring and reporting of emissions. Interestingly in March 2001, the US pulled out of Kyoto Protocol by complaining against the lack of meaningful participation by China and India in their commitments (Gupta 2003). Similarly in early 2008, the EU hardened its stance towards greenhouse gas emission scenario and stressed that the economically more advanced developing countries should contribute adequately according to their responsibilities and respective capabilities. The obvious target in this case has been Brazil and India (Pal Chaudhuri 2008). In future India might experience increased pressure from the developed countries on these fronts.

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2.3 Inter-linkage between Trade and Environment under WTO

Interrelation between trade and environment was first discussed under the UN conference on Human Environment at Stockholm in 1972. It is observed that the MEAs with trade provisions are subsequently coming into force since mid seventies. Discussion on environment related policies and their trade repercussions also started at the GATT forums during the seventies and eighties (Uimonen and Whalley 1997; CUTS 2002). Unilateral actions by developed countries on the ground of protection of environment have been witnessed several times during this period. For instance, the US sanction on imports of tuna from Canada (1982); imports of yellowfin tuna from Mexico (1991 and 1994); Canadian sanction on imports of certain unprocessed herring, roe and pink and sockeye salmon from US (1988) and EU sanction on hormone-treated beef imports from the US are worth mention here. The GATT dispute settlement panels however indicated that these actions were not always in line with the multilateral commitments of the imposing countries (Uimonen and Whalley 1997).

The Uruguay round of discussion under GATT started in 1986, which continued upto 1994 and paved the way for inception of WTO in 1995. In the meantime in 1992 the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro adopted 27 principles for ensuring sustainable development, which is known as Rio Declaration. Although the conference tried to keep pace with GATT negotiations based on multilateral commitments, the role of unilateral actions were not completely ruled out. For instance, Principle 12 of the Declaration noted that “.. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided.” On the other hand, the Principle 15, known as the ‘Precautionary Principle’ noted that “.. the precautionary approach shall be widely applied by States according to 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

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prevent environmental degradation.” It is to be noted that Principle 15 could be potentially misused for protectionist purposes.

After the inception of WTO in 1995, environment was not directly included in the final provisions, although several WTO agreements with environmental implications were incorporated. Annex 1.1 provides a detailed account how environmental provisions are enshrined in various WTO agreements. In general, the WTO Members are expected to facilitate trade among them by constantly liberalizing the trade barriers. However, through provisions like Sanitary and Phytosanitary Measures (SPS) and Technical Barriers to Trade (TBT), the WTO permits the Member countries to impose a standard appropriate to protect the human, animal or plant safety etc., based on scientific evidence, which may potentially be misused for protectionist purposes.

In order to avoid trade frictions, the WTO agreement encourages the countries to follow the standards on food products set by Codex Alimentarius Commission (CAC), which was created in 1961-62 by FAO and the World Health Organization (WHO); standards on animal health set by Office International des Epizooties (signed in 1924) and standards for protecting plant resources from harmful pests set by International Plant Protection Convention (IPPC), which was first adopted in 1951 respectively. Nonetheless, there exist several gray areas within SPS-TBT agreements, which are subject to conflicting interpretations and could potentially turn out to be trade restricting.8 It has been argued that there is a need to negotiate a number of GATT-WTO provisions relating to environment (Uimonen and Whalley 1997).

Additionally in order to take care of the environmental concerns, in line with the Agenda of the Rio Declaration, a Committee on Trade and Environment (CTE) was created by the WTO General Council on January 31, 1995. The mandate of CTE has been to recommend appropriate policies to Ministerial Conferences on required changes in the rules of the multilateral trading system to facilitate smoother interaction between trade and environment on one hand and to avoid protectionist measures on the other (Mann and

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Porter 2003; Wiemann 2007). CTE remained a happening forum since inception. In 1996, the CTE described multilateral solutions based on international cooperation and consensus as the most effective means to crack environmental problems (Sawhney 2007). In 1997 and 1998, the CTE discussions mainly focused on the linkages between the MEAs and the multilateral trade agenda. The TBT-related market access barriers were also focused and the developments within several MEAs were analyzed through discussions with them (WTO Annual Report 1999).

Since 1995, the EU has attempted several times to legitimize environmental sanctions under WTO for compliance with MEAs, irrespective of the fact whether a country has ratified a particular MEA or not (Oxley 2002); and the US, Japan, Switzerland and Norway supported the contention at times (Sawhney 2007). At the Seattle Ministerial, EU and the US attempted to include trade and environment under the WTO forums, only to be rejected by the developing countries (Singh 2001). The developing country argument was that legalizing environmental sanctions under WTO would harm the multilateral trading system (Griswold 2001), since environmental concern is best protected through the MEAs. The other concern was that the environmental provision, unless otherwise cared for, might function as a market access barrier against developing countries in long run. The developing countries wanted to have a well-structured analysis of Specific Trade Obligations (STOs) on MEA-by-MEA basis, thereby having the scope of appreciating the uniqueness of each treaty (Sawhney 2007).

Subsequently, the Doha Declaration (2001) at the Doha Ministerial Meeting agreed to focus on the relationship between existing WTO rules and STOs set out in MEAs and ensuring regular information exchange between the two, and the reduction or elimination of tariff and NTBs to environmental goods and services (Paragraphs 31-33). As a result, the Members initiated negotiation on the interrelationship between WTO rules and MEAs. The discussions under CTE also focused on the effects of environmental measures on market access, especially for developing countries and the impact of the labelling requirements for environmental purposes (various WTO Annual Reports). Currently the CTE special sessions invite the secretariats of the MEAs, UNEP

Apart from the direct WTO provisions and ongoing negotiations, a brief discussion on the GATT / WTO dispute settlement case law on environmental issues will not be inappropriate here. Although several cases on SPS-TBT provisions were lodged after the inception of the WTO (Wilson 1999a; Chakraborty and Khan 2008), on few occasions disputes have been lodged with explicit environmental provisions. A few select cases are mentioned here.

Although the WTO agreement does not cover the process-related standards in the exporting countries, unless some environmental harmful effect is contained in the product itself, the developed countries have attempted to legitimize the use of unilateral sanctions at times through WTO and the shrimp-turtle dispute in late nineties is a case in point. In WTO dispute numbers DS 58 and DS 61, the US unilaterally prohibited import of certain shrimp products from India, Malaysia, Pakistan, the Philippines and Thailand under Section 609 of US Public Law 101-162 on the ground of harmful effects on sea turtles. This was argued to be violation of articles I, XI and XIII of GATT 1994 and the TBT provisions.

Although the US actions were ruled WTO-incompatible, it has been argued that by remaining silent on the fact whether US is entitled to assert extra-territorial reach or not, the WTO dispute settlement body in a way accepted the sanctity of the US action to impose sanction on the exports of developing countries (Scott 1999; Srivastava and Ahuja 2002a, 2002b; Chimni 2002; Oxley 2002). Chimni (2002) argued that by overturning certain rulings of the Panel, the Appellate Body verdict actually paves the way for increasing incidence of unilateral trade sanction in future. This would go against the spirit of Rio Declaration (1992), which talked against the imposition of unilateral actions to address environmental challenges. Srivastava and Ahuja (2002a, 2002b) also noted that the case might be cited as precedence for future sanctions.9

9 "...legitimised the imposition of unilateral trade prohibition and process-related conditions and extra-jurisdictional requirements to protect environment, certainly for the transboundary environmental concerns and may subsequently pave the way for such requirements becoming part and parcel of international trade... Thus, the outcome of the shrimp-turtle case has all the
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The complaint by Argentina, Canada and the US (WTO dispute cases DS 291-293) against the EU’s de facto moratorium on approvals of biotech products and individual Member’s marketing prohibitions on previously approved biotechnology products on the SPS ground and WTO agreement on agriculture is worth mention here (Nag and Chakraborty 2007). The WTO panel ruled that EU policies are inconsistent with the ‘sufficient scientific evidence’ and ‘risk assessment requirements’ under the SPS Agreement. It also turned down the EU argument for considering the Convention on Biological Diversity (1992) and the Cartagena Protocol on Biosafety (2000) for interpreting the relevant WTO rules in this case (Sharma 2006). Suppan ((2005) noted that the panel ruling against EC would have a profound impact on the viability of successfully using a precautionary principle-based defense.

However the panel has left the following questions unresolved – WTO-compatibility of EU’s current approval procedures based on product-by-product assessment and future implication of the panel’s narrow interpretation of ‘risk assessment’ in the SPS Agreement on Member’s ability to adopt precautionary approach (Bemasconi-Osterwalder and Oliva 2006). In short, the environment related cases indicates a potential divergence between the MEAs and the WTO provision in future, which leaves open the possibility of imposition of environmental sanctions in future.

2.4 MEAs and WTO: Potential Conflict Areas

While several developing countries prefer to discuss the trade-environment linkage issue within the MEA forum rather than the WTO, the potential conflict between the two provisions need to be noted here. First, trade provisions under MEAs use the import / export ban route, which is not strictly compatible with WTO obligations (Neumayer 2000; Sawhney 2004b). For instance, CITES bans trade in endangered species; Montreal Protocol bans trade and production in CFC for protecting ozone layer; Basel Convention bans trade in hazardous wastes for preventing indiscriminate dumping of toxic waste in developing countries and Cartegena Protocol restricts trade in certain potential for strengthening the hand of protectionist lobbies, in the name of conservation and protection of the environment.” Quoted from Srivastava and Ahuja (2002b).
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genetically modified organisms (GMOs) without scientific evidence under precautionary principle. WTO on the other hand, allows trade restrictions only on the ground of internationally accepted scientific principle (Oxley 2002). It has often been argued that the precautionary principles under Cartagena and WTO SPS-TBT provisions are contradictory (Oxley 2002).

Second, trade provisions in some MEAs (e.g. – Montreal Protocol) discriminate between parties and non-parties, which may lead to violation of the Most Favoured Nation (MFN) principle of WTO, if all WTO Members are not members of that particular MEA (Sawhney 2004b).

Third, Environmental NGOs play a major role in MEAs unlike WTO, which may go against the interest of developing countries. For instance, Greenpeace had lobbied earlier to the Dutch Government for banning export of ships to India for breaking as per its obligations under Basel Convention (Oxley 2002). WTO on the other hand, incorporates the provision of the DSB accepting Amicus Curiae briefs, which however is currently not being used (Chaisse and Chakraborty, 2006). However, formal contradiction between MEAs and WTO is currently not frequent.\footnote{A detailed discussion on this area is carried out by Uimonen and Whalley (1997), Neumayer (2000), Oxley (2001), Hoffmann (2003), Mann and Porter (2003), Sawhney (2004b).}

It has often been argued that the punishment strategies / sanctions within MEAs (e.g. - CITES) may not be effective in realizing the environmental goal, but the information-enhancing tools (e.g. – prior consent before trading under Rotterdam convention) are conducive to sustainable development (Sawhney 2007). Effort to ensure synergy between the two approaches is currently on (WTO 2002).

2.5 Environmental Sanctions and Standards: A Developed Country Perspective

As already discussed, the incidence of explicit sanctions in world trade is not too many, but limited sanctions in terms of compliance requirements with stringent environmental standards are frequent. Fontagné et al (2001) have noted that the environmental barriers (i.e., compliance requirements) generally take the following
routes: technical barriers; authorization; testing, inspecting and quarantine; eco-labelling and packaging, prior surveillance etc., all of which may affect the export competitiveness of the developing countries.

The WTO SPS-TBT provisions expect the developed country Members to take into account the special needs of developing Members in these regards and not use their superior technological position to exploit them. If requested, specified, time-limited exemptions should be granted to developing countries for meeting any technological upgradation requirements for compliance. However, the experience in the EU and the US market often suggests otherwise, as observed from the following discussions. Often the strict imposition of environmental standards functions as a sanction on developing country exports. Apart from that one particular fallout of the environmental sanctions during late nineties is that the private importers in EU and US increasingly prefer Indian exporters of environment-sensitive categories (textile, leather etc.) to have eco-labels, ISO certifications etc. (UNCTAD undated).

2.5.1 The Scenario in United States

2.5.1.1 SPS/Environmental Measures

The EU is complaining against US unilateral measures on environmental issues including SPS-TBT grounds for long (USBTI 2006). The extensive certification requirements for perishable products including clearance after on-cite inspection by United States Department of Agriculture (USDA) often works as a practical sanction on developing country exports (USBTI various issues). Moreover, the US Food Safety Inspection System (FSIS) in 1995 introduced a system of process controls to prevent food safety hazards known as Hazard Analysis and Critical Control Points (HACCP), initially for seafood industries and later extended to other product groups. It has been noted that the working of HACCP requires significant compliance requirements from the developing country exporters. Food and Drug Administration (FDA) intends to extend HACCP other primary exports as well, which will add to their cost.
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The seafood imports have suffered most from the stringent US SPS measures. Since December 1995, the sanitary requirement has been intensified, and now exports need to accompany certificates for chemical and biological hazard analysis, potential hazards in processing identification, and preventive measure application records (US TPR 1999). The US prohibits imports of shrimp and shrimp products harvested with technology that may adversely affect sea turtle species, unless the Department of State annually certifies that prohibitive measures have already been undertaken.

It has been noted that the US currently does not grant equivalence to the Indian standards (US TPR 2006). The SPS regulations in US on importation of fresh fruits and vegetables have resulted in a practical ban on imports of Indian fruits like mangoes, grapes etc. (ESCAP 1999b).

2.5.1.2 TBT Measures

The TBT measures imposed by US, often far-exceeding international standards, is increasingly becoming a serious issue. The standards are enforced through the testing of goods before entry, compulsory certification, and examination of complaints on standards related to health and sanitation, which often cross the required level of protection. Although until now, most of the standards and technical regulations are enforced through self-declarations, third-party certification is becoming increasingly important and approval of Government agencies like Occupational Safety and Health Administration (OSHA) and the FDA has become mandatory for a wide range of products (US TPR various issues). The same is true at the State level as well.

The Science, Technology and Economic Policy Board of the National Research Council of the National Academics of Science and Engineering (in EU) has criticized the US system for assessing conformity of products and processes, which make the system increasingly complex, costly and burdensome, with tests being duplicated by authorities at different levels of Governments (USBTI various issues). There are more than 2700 state and municipal authorities in the US requiring safety certificates. Often, individual
States set environmental standards going far beyond what is being followed at the Federal level.

In the post-Doha period, several WTO Members have raised concerns in the WTO Committee on TBT regarding the US safety standard for refillable lighters, the Bioterrorism Act, and the country-of-origin labelling programme authorized by the 2002 Farm Act etc.\(^\text{11}\) WTO Members have raised concerns in the TBT Committee in respect of the US labeling programme as well.\(^\text{12}\) The trade-distorting effect of the labeling requirement in the 2002 Farm Act (for all commodities except fish and shellfish), Federal Food, Drug and Cosmetic Act and Fair Packaging and Labeling Act has often been reported by EU (USBTI various issues).

### 2.5.1.3 Move towards Private Sector Standards

In US recently product standards introduced by companies and NGOs are gaining importance, as there is a price premium for the labeled products (Wiemann 2007; Khan and Ahmed 2007a, 2007b). In US, the federal agencies have adopted nearly 2,500 private-sector standards, including voluntary consensus standards, which are getting quite important (Carraco and Siniscalco 1997; ESCAP 1997; Perrings 2000). In 2003 only, federal Government agencies had substituted 185 private-sector standards for Government-developed standards (WTO TPR on US 2006). This officialization of private-sector standards might increase cost of exports for developing countries.

### 2.5.2 The Scenario in European Union

#### 2.5.2.1 Problems with varying Standards

The widely differing standards, non-transparent testing and certification procedures for a number of products among EU Members bear adverse consequences for developing country exporters. The applied measures often cross the ‘required domestic standard’ provision and are not based of available scientific evidence. Specifically, the

\(^{11}\) WTO documents G/TBT/M/30, 19 August 2003; G/TBT/M/32, 19 April 2003; G/TBT/M/33, 31 August 2004; G/TBT/M/34, 5 January 2005; and G/TBT/M/35, 24 May 2005.

\(^{12}\) WTO document G/TBT/M/35, 24 May 2005.
national standard making in a number of EU countries during late nineties often outstripped overall EU norms (ECO Trade manual 1998). Annex 2.2 shows the EU regulation matrix during late nineties, which was quite different from the corresponding matrix for the individual Member countries. It was certain that if the exporters decide to follow the overall EU directive, they are going to lose markets in countries with higher standards, such as Germany, France etc. Hence to serve the entire EU market, they must bear additional cost in order to comply with the respective regulation in those countries. In short, the presence of various national Eco-labeling schemes with differing criteria leads to market fragmentation and additional economic costs of adapting products to different markets (USTR Report on EU various issues).

For instance, Otsuki et al (2000) noted that while France had a very stringent aflatoxin B1 standard on groundnuts, its standard on other food items was comparatively lax. Similarly, the EU countries are very serious about the elimination of products like PCPs, introduction of improved production process for marine products for protection of wild flora and fauna etc. However, the residue limits for PCP products differ markedly between Germany, Italy and France (Bharucha 2000).

The initiative by EU-countries to go beyond codex recommendations on health standard (e.g. – like pesticide residue) is another case in point (Scott 1999; Otsuki et al 2000; USTR Report various issues). The adoption of the more stringent aflatoxin standard in 2001 is worth mention, which was supposed to avoid 1.4 deaths per billion annually. While the population of the EU was lower than a billion at the time of the adoption of the measure, this resulted in an export loss of US $ 670 million for African exporters of cereal, dried fruits and nuts (Otsuki et al 2000; RIS 2003).

It has been reported that the stringent and varying pesticide residue regulations within EU affected Indian Darjeeling tea and coffee exports, although the residue level in the same was below the codex set standard (Bharucha 2000). For instance, the pesticide residue limit is 0.01 PPM, 0.03 PPM and 0.10 PPM in UK, Netherlands and Germany respectively, for Aldrin and Dieldrin.
2.5.2.2 Eco-Labeling Issues

Eco-labeling, which may include both negative and positive information has recently emerged as a major barrier on exports of environmentally sensitive products. It tries to ensure that the exports from a country are harmless for the consumers and environment of the importing country looking at the entire life cycle of the product. Eco-labels create significant problems as they have the important distinction of focusing on production and process related criteria, which often do not affect the intrinsic characteristic of the end product. Moreover, the set criteria may reflect the environmental preferences of the country granting the eco-label but not those of exporting developing countries. The cost implications are often redundant with additional costs for research and certification systems, and this compliance requirement acts as a significant market access barrier (Jha and Vossenaar 1997; OECD 1997b).

Different EU countries follow different set of eco-labeling rules, complicating the problem for developing country exporters. ‘Blue Angel’ of Germany is considered most restrictive in terms of stringency (Hemmelskamp and Brockmann 1997). It involves testing of the product requirements every three years for a number of ‘environmentally-sensitive’ products. This poses unnecessary testing requirements, adding burdens for the exporters. The German eco-labeling programme has affected some 70,000 manufacturers and exporters in East Asian countries alone. The EU directive to impose eco-labeling criteria for Indian bed-linen and T-shirts exports could also be mentioned here. It is however observed from Annex 2.3 that acquiring eco-labeling is a costly affair for developing country exporters.

For example, the Danish Eco-labeling requirements on paper products stipulate that sulphur emissions generated during the production process should be reduced due to problems of sulphur emissions and acid rain in the EU countries (ESCAP 1997).

The major objection to the establishment of the MST (Marke schadstoffgeprüfter Textilien), which is a product label for textiles that reach the final consumer and MUT (Marke umweltschonender Textilien), which is a product label for intermediate textile products that are manufactured in an environmentally benign way and do not enter the retail market, proposed under Blue Angel, is that their application will violate article 9 of the GATT, because the awarding of criteria for these labels will constitute a discrimination against manufacturers and exporters in third countries (Uimonen and Whalley 1997; Wyatt 1997; Bharucha 2000).
Product labeling has already been endorsed by the WTO dispute panel in the tuna-dolphin case, which acknowledged the right of the importing countries in demanding the safety of the dolphins during tuna-catching process (Wiemann 2007). Process monitoring is not currently part of WTO, but the EU at times advocated in favour of including the same under the wings of WTO, so that sanctions on that ground could be imposed. However, it has been argued that the product labels constitute NTBs to trade and are thus inconsistent with article XI of the GATT. In addition, it is argued that the awarding criteria do not exclusively relate to the product as such, but to process and production methods, which again is contrary to the international trade rules (Oxley 2002). The lack of clear consensus on labeling regulations increases the risk of future trade conflicts (Gruère 2006). So far it has been agreed that the countries would have voluntary eco-labels based on product-related PPMs under the TBT agreement. Brazil, Columbia, Egypt and India strongly oppose the idea of covering non-product related PPMs to be covered by the TBT agreement (Chakraborty 2005).

The EU-developed cradle-to-grave met-matrices for several product groups (Annex 2.4 - 2.8) are worth mention here, which when strictly implemented, can restrict trade in quite effectively. The main goal of these environmental regulations is to ensure safe products for the consumers as well as to protect the environment. The purpose of this tool is to urge the foreign producers to use more eco-friendly production technologies, which significantly adds to their cost. It is observed from the recent Dutch agency CBI’s documents that conformity with EU Environmental Management System (EMS) require either developing of own standard or conformity with ISO 14000 series (CBI undated).

2.5.2.3 New Regulations

In recent period, the EU has introduced the “Registration, Evaluation, Authorisation and Restriction of Chemical substances” (REACH) in 2007 for controlling the risks from use of harmful chemicals. Under the REACH regulation, manufacturers and importers are asked to gather information on the properties of their chemical substances, and register that in a central database maintained by the European Chemicals
Agency (ECHA) in Helsinki. The legislation puts certain obligations and restrictions on producers, importers and downstream users of chemicals depending on their properties and the quantities they handle per year on environmental ground. However, Indian exporters of leather products have already expressed fear that these provisions could be misused for protectionist purposes in coming days.

### 2.6 Impact of Environmental Measures on International Trade

Determining the effect of stringent environmental policies on trade flows has been extensively researched in international trade literature. While a section of the literature focus on the theoretical question of the implications of imposing environmental sanctions / stringent environmental standards and the motivations behind imposing them, the other section focus from the empirical standpoint on the actual / projected impact of the standards. The evidence from the literature is however somewhat ambiguous. In the following sections, the evidence from the literature is presented.

#### 2.6.1 The Theoretical Perspective

A section of the trade literature has extensively focused on the motives behind imposition of environmental standards in developed countries from theoretical standpoint, often indicating towards protectionist purposes. It is observed from the theoretical literature that Governments and firms in developed countries can play a key role in adoption of a stringent environmental standard, which would restrict the entry of developing country firms in their markets (Barrett 1994; Matutes and Regibeau 1996; Abrego et al, 1997; Baldwin 1999; Fischer and Serra 2000; Gandal and Shy 2001; Gandal 2001). In addition, analyzing the political economy of environmental protection, a section of the literature has shown that the driving motive behind the lobbying by domestic firms for imposing stricter environmental standards on imports could be raising the cost structure of their rivals (Sykes 1999; Korber 2000).

The theoretical analysis of Barrett (1994) revealed that the Government decision to impose a strong or weak environmental standard is a function of the structure of local and the foreign industry. In other words, the benefits for the local firms could play a
major role environmental standard policy adoption decision of a developed country. It has been argued that strategically it makes sense for the Governments to impose environmental standards rather than pollution taxes (Rauscher 1991; Ulph 1992), although in some cases, taxes are preferred to standards (Tarui and Polasky 2005).

Barrett (1997) noted that tackling the problem of free riding in international environmental agreements is a major challenge and the need to use sanctions may originate in that case. The paper noted that the Montreal Protocol has not witnessed any significant incident of free-riding, despite the fact that a substantial abatement requirement is imposed on signatories. A theoretical analysis involving the agreement revealed that since the payoff of the non-signatories decrease as a result of the trade ban, a credible threat of imposing sanctions would be enough to ensure compliance. However, the study also pointed out that the environmental sanctions are indeed welfare reducing and their use under the Protocol violate the GATT / WTO non-discrimination principle.

The reason behind the need for the developed country Governments to impose environmental actions against developing country exports sometimes may be justified from the weaker property right regime in the latter. The idea here is that under free trade scenario the developed countries may end up in over-consuming under-priced resource-intensive products imported from their developing counterparts (Chichilnisky 1994; Copeland and Taylor 1997, 1994; Kolstad 2000).

However Das (2007) argued that the effect of environmental regulations on trade patterns and comparative advantage could be ambiguous, thereby questioning the notion of pollution haven hypothesis (PHH) and relocation of developed country firms in developing countries. On the basis of the findings, the analysis argued that trade agreements of the developed countries with developing countries characterized by weaker standards should not necessarily be tied with environmental

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15 It is generally argued that imposing tax policy might impose a burden on the domestic players as well, while imposing the standard would put the pressure on the foreign players, on the high moral ground of sound environment. Therefore the policy is politically more acceptable to a Government.
agreements. It further contested that environmental and economic issues should be kept separate in the context of international trade.

The trade effects of environmental sanctions / stringent measures from a theoretical perspective have also been an extensively researched area (Barrett 1994, 1997; Carraro and Siniscalco 1997; Gurtzgen and Rauscher 2000; Das and Das 2007). Ganslandt and Markusen (2001) have noted that environmental standards can influence the complementarity or substitutability of products and create arbitrage options by influencing costs of trading products and services. The study also revealed that higher standards imposed by developed countries always result in increasing profitability by domestic firms, but reduction of the same for firms located in developing countries. Facchini et al (2007) have explained the higher levels of protection in the developed country markets by linking their substitutability with domestically produced goods in developing country markets.

For analyzing the impact of introducing environmental standards, the framework developed by Gurtzgen and Rauscher (2000) in line with the Krugman model (1979, 1980) is worth particular mention. The theoretical analysis of their model showed that when a developed country makes its environmental standard more stringent, the resultant change in the number of firms in the developed and the developing countries bear a negative relationship with each other. The paper argued that change in environmental standard is reflected both in direct profit effect and indirect capital productivity effect and the resultant effect determine the number of firms in the developed and the developing country. Depending on the magnitude of changes in the number of firms then, the volume of export from one country to the other could be affected. In other words, the analysis suggests that the change in environmental standard in a developed country may affect the export potential of the developing countries.

It has generally been observed that any attempt to enforce a higher environmental standard by the developed countries through environmental sanctions would be welfare-reducing from the developing country perspective (Sanyal 2001; Cuts 2005; Šankar 2006). The inappropriateness of one standard for other countries has been noted in the

2.6.2 International Experience

The trade literature takes note of the fact that distinction of environmental, health and quality standards relating to residue limits, emission standards and packaging requirements are increasingly becoming blurred\textsuperscript{16}. The problem of market fragmentation owing to various eco-labeling schemes has also been highlighted (Chang 1997; Ferratini 2008).

Given the fact that non-compliance with environmental standards in developed countries leads to import restrictions, the developing countries are often forced to undertake policies for conforming to them. However, the adverse impact of cost of compliance with environmental standards on exports has been widely reported\textsuperscript{17}. Broadly the findings of the literature can be summarized as while non-compliance with the standards leads to import sanctions, compliance leads to increase in cost and thereby competitiveness.

The OECD (1999) survey reported that environmental standards imposed by developed countries act as a relatively greater entry deterrent for small enterprises, and often developing country firms are forced not to enter a particular market because of high compliance cost. The study also pointed out the presence of duplicative and discriminatory testing and certification requirements in developed countries, which act as a substantial barrier to trade.


In the empirical literature, several analyses have noted the trade restrictive implications of environmental standards (Van Beers and Van den Bergh 1997; Levinson and Taylor 2001; Ederington and Minier 2001; Cole and Elliott 2003). It is argued that US environmental regulations could be treated as secondary trade barriers (Levinson and Taylor 2001; Ederington and Minier 2001).

The analysis of Wilson et al (2002) with 24 countries indicates that more stringent environmental standards imply lower net exports of several environmentally sensitive industries. The study also pointed out that owing to the difference in environmental standard, a trade agreement on a common environmental standard always cost a non-OECD (developing) country substantially more than an OECD (developed) country. Relationship between environmental stringency and competitiveness has also evolved as one major area of research (Mulatu et al 2001; Jenkins et al 2002).

Focusing on the cloth and leather exports from Pakistan, Khan et al (2002) has shown that the compliance cost for the firms within these two sectors increased considerably, though the environment quality also improved in the process. The problem was compounded by the low level of awareness by the producers about the standard-setting process.

The role of a developing country Government in this context is of utmost importance. Jha, Markandya and Vossenaar (1999) have noted that the environmental compliance cost for adjustment in the palm oil industry in Malaysia was limited, as with the help of state-funded research the firms were able to produce commercially viable by-products. Similar initiative however has not been shown by most developing country Governments.

A considerable section of the literature has however questioned the strategic influence of environmental standards on trade. Absence of any correlation between the environmental standard in a country and its net exports of dirty products has also been

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reported in the literature\textsuperscript{19}. It has been argued that the effect of the stringent environmental regulations on industrial competitiveness is not always obvious (Jaffe et al 1995; Ratnayake 1998). Thilmany and Barret (1997) argued that SPS measures might also increase effective demand, fuelled by the consumers' concern for safety of the product. However, owing to the fact that SPS measures could also act as a quota, the total effect of SPS measures on volume of trade is ambiguous.

Looking at the trade data, it is observed that the share of the developing countries' in the import of environmentally sensitive commodities for select European countries has declined (Sorsa 1994). On the other hand it is argued that while environmental standards are proliferating, exports of ESGs are also on the rise (Chaturvedi and Nagpal 2001), with the share of developing countries increasing in several ESG categories (Chaturvedi and Nagpal 2007b). The view receives support from Mani and Wheeler (1998), who have noted that the pollution-intensive output as a percentage of total manufacturing has fallen consistently in the OECD countries and risen steadily in the developing world.

2.6.3 Indian Experience

The Indian exporters started facing increasing imposition of environment related NTBs since mid-nineties in EU, Japan and the US market (Saqib 2000). The barriers were felt not only through the measures themselves, but also with respect to the strict timelines for compliance as well. For instance, the US Court of International Trade in 1996 asked the seafood exporting countries to install turtle excluder device (TED) in their trawlers within three months for exporting to US, a process which was possible for the marine industry in US to achieve over 10 years (EITF 1996a). The declared objective has been to protect the sea turtles from fishing nets. To counter the problem, the Government entrusted Marine Product Export Development Authority (MPEDA) for introduction and promotion of TEDs in Indian fishing vessels, which shortly started commercial production of TED, designed by Central Institute of Fisheries Technology (CIFT)


Germany, among the EU countries, has taken a leading role in imposition of environmental sanctions on Indian exports. The German ban on the import of leather items containing more than 5 mg/kg of Pentachlorophenol (PCP) in 1989-90 and the ban on the import of leather (and textiles) treated with azo dyes (benzidine) in 1994 (Chakraborty and Singh 2005) is worth mention here. It has been argued that the latter sanction was neither consistent regionally nor compatible to the WTO framework (Mohanty and Manoharan 2002). In the subsequent period, Germany asked India to phase out the use of synthetic dyes (including azo dyes, benzidine and 19 arylamines) in Indian textile sector by June 1996, on the ground that the material is carcinogenic. The ban on the garments by Germany adversely affected almost all Indian textile exports such as cotton, jute, wool, silk, polymide, polypropylene and their blends. India then requested for extension of the deadline by nine months for compliance, to which Germany agreed.

Subsequently in May 1996, Ministry of Environment prohibited use of 74 azo dyes covering manufacture, treatment, packing, storage, transportation, use and transfer; the underlying assumption—being that textile products with azo dyes could face similar ban in Canada and US as well (EITF 1996b). The ban finally came into force from 1 April 1998. The German regulation was quite stringent, as instead of actual health damage, presence of the prohibited substance itself was defined as a violation of the law. The German sanctions escalated the compliance cost for Indian exporters as for quality certification; a number of tests now need to be conducted (EITF 1996d; UNCTAD undated; Sankar 2007).

It was argued that the ban would facilitate a switch to natural dyes, which are non-toxic and safer to use. The ban in Germany on all leather product imports containing PCP however forced producers to import alternate and costlier chemicals like ‘Busan 30’ from Germany or US. In response to this scenario, Central Leather Research Institute (CLRI)
after extensive research had developed technology for locally manufacturing TCMTB, a cheaper substitute of PCP.

Subsequently, textile-processing industry was brought under Textile (Development and Regulation) Order, 1993 for coping with the German ban. The order required the textile units to register with the Textile Commissioner and undertake the latest modernization, quality control and use the permitted dyes and chemicals only (EITF 1997a). Germany later clarified that Indian export of carpets do not come under azo dye regulations, as they do not directly and indirectly come in contact with human body. However export of garments, bed-linen, towels, ornaments and rucksacks were heavily affected by the ban (EITF 1997c).

In a similar incident, Indian seafood exports was banned in the EU and some other developed countries in 1997 on the pretext of the presence of cholera germs and salmonella bacteria, which resulted after a plant visit by EU’s Food and Veterinary Office delegation (EITF issues; Singh 1997; Kalra 1997). The team concluded that only 16 out of 160 approved Indian exporters to EU conform to their specified hygiene standards (EITF 1997b). The ban was lifted four and a half month later on the condition that the future-shipments would be accompanied by a quality certificate from Export Inspection Council of India (EITF 1998a). The certification related system was taken care of by MPEDA (Henson et al 2005).

The process-related barriers have also threatened Indian export interests at times. In 1997, US Food and Drug Administration (FDA) decided to implement Seafood Hazard Analysis and Control at Critical Points (HACCP), and a very short notice was provided to the Indian players for ensuring compliance. According to the procedure, Indian exporters eying the US market must undertake HACCP analysis; implement Sanitation Standard Operating Procedure (SSOP) and the Current Good Manufacturing Practice (CGMP), as the US importers need to source the product only from a country implementing HACCP (EITF 1997d).

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21 A similar ban was imposed by EU earlier on Bangladesh, China and Madagascar (EITF 1997b).
Subsequently, the EU imposed its own limits on the permissible level of aflatoxin in food items imported from outside the bloc, strict compliance to which was a precondition. The problem owing to this standard for Indian exports of nuts, pepper and oil cakes was compounded by the fact that the individual EU countries were taking recourse to their own standards. For instance, the permissible aflatoxin levels in UK, Netherlands and the US were 4 parts per billion (ppb), 10 ppb and 20 ppb respectively, as compared to the 30 ppb for India (EITF 1998b). Since then rejection of the Indian consignments on environment-related grounds has been reported at times (Mehta 2005).

Several studies have been undertaken to focus on these environmental standard related barriers and their impact on Indian exports. By focusing on the frequency ratios for product lines at HS 6-digit level Mohanty and Manoharan (2007) have shown that environment related Non-Tariff Measures (NTMs) are simultaneously applied on a large number of product lines both in the agricultural and the manufacturing sector. The study concluded that among every four product subject to any type of NTM, one product is subject to environmentally sensitive NTMs.

Bhattacharyya (1999) has shown that Indian exports are subject to various environment-related barriers in the EU and the US market, and the value of products affected by these measures is on the rise. The uncertainty and harassment factor owing to the higher standards especially add to the cost of the exporters. IIFT (2000) also indicate that in EU and US a considerable section of Indian exports suffer from environmental provisions. Similar concerns have been raised by other studies as well22. Chaturvedi and Nagpal (2001) noted that the SPS measures faced by Indian exports under various initiatives suggest that scientific merit of the involved processes is generally dubious.

The problem with multiplicity of EU standard gets clear from the fact that rejected Indian consignments in one EU country at times has been accepted through other unfair means in another country (Chakraborty 2001; RGICS 2001; Mehta et al 2002). It

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has often been argued that the regulations are geared towards protecting the local business interest rather than actual health concerns. For instance, quoting the experience of Indian exporters of cut flowers to Holland and tea to Germany and the same for Mexican tuna exporters to US, Sahai (1995) noted that the environmental ban in all three cases were motivated to protect the local producers. Mukhopadhyay and Chakraborty (2005) noted that too much emphasis on environmental standards might lead to loss of comparative advantage for India.

Apart from an outright ban and rejection of the consignment, price correction on the environmental ground is another concern area. It is argued that the environmental tax on pollution-intensive sector increases the price of the exportables (Markusen 1975; Krutilla 1991; Panagariya et al 2004), the mirror image of which implies that poor environmental standard acts as an export subsidy. Using this logic, the developed countries often imposed various price correction models on developing country exports. For instance, leather export from Bangladesh to Europe or flower export from India to Japan gets lower price on the ground of the prevailing lower environmental standard in the developing country (RIS 2003).

It has been noted that Indian leather exports have considerably suffered from the regulations on chemical contents in leather products (PCP, azo dyes etc.), testing standards and procedures, packaging and labelling regulations etc. in the EU and the US market (RGICS 2001; Chakraborty and Singh, 2005; Chakraborty 2005). For instance, in the EU and the US market, the testing through an authorized agency is a must (Verma 1997). The German standard on testing leather quality, US standard on flex testing, tearing strength, colour fastness, flammability standards etc. are reported to be quite stringent vis-à-vis other countries. Moreover the insistence on packaging by recyclable items is another concern area. On the whole the eco-labelling criteria for leather sector in developed countries are restricting India’s market access considerably (Chakraborty 2005).

Similarly adverse impact of the environmental regulations on Indian textile sector in terms of banning of chemicals, adoption of environment-friendly production process
and packaging-related instructions has been reported (Chakraborty et al 2006). UNCTAD (undated) has noted that since the azo free dye substitutes are around 2.5 times more expensive than the ordinary varieties, compliance increases the costs by 15 – 20 percent.

In case of marine products, the requirement to clean the floors of the processing units with mineral waters has also been quoted as too stringent a policy by exporters, which increase their compliance cost quite steeply (Kaushik and Saqib 2001). Similar experience has been quoted by other studies as well (Mehta 2005; Saqib and Taneja 2005. The field survey undertaken by Henson et al (2005) reported that the compliance cost for the marine firms is around 15 percent.

The existence of the barriers has been acknowledged by Ministry of Commerce, Government of India at times. For instance, MOC (1999) has noted that environmental /SPS-TBT related barriers (e.g. – detailed eco-labeling, multiple certifications and testing requirements etc.) indeed impede market access of several Indian export items including leather, textile, marine products etc. MOC (undated) also note that several stringent standards on environmental ground in countries like Canada, EC, Japan, New Zealand, Norway and US leads to increased transaction cost for Indian exports of chemicals, pharmaceuticals, paper-products etc.

The literature on the cost of compliance for the Indian players throws a mixed result. While a section of the literature indicates that the compliance cost may not be substantial, others have questioned that conclusion. The studies conducted during late nineties pointed towards a slow response of the polluting industries to the standards and adoption of eco-labels (Murty and Prasad 1998; Jha et al 1999; Bharucha 2000). Owing to the sanctions during late nineties and regular factory visits by importing country officials, the compliance level in India has increased over the years for several traditionally dirtier industries (Schjolden 2000; Tewari and Pillai 2005; Sankar 2006), although lack of access to technology remained a major concern area.

RIS (2003) pointed that cost of compliance in fisheries, textile, spices can be substantial and the requisite technology may not be easily available in a developing
country. Moreover, even if the technology is available, the running cost of maintaining the same could be substantial. For instance, after the shrimp-turtle dispute, in order to facilitate the use of TEDs, MPEDA started commercial production of them, designed by CIFT. The TEDs were distributed free of cost through the Fishery departments of the State Governments with coastline. While the cost of producing one TED has been noted to be around Rs. 2500, the cost of enforcement and the additional cost of fuel for running the TED, was much higher (Srivastava and Ahuja 2002a, 2002b).

Sawhney (2003) has noted the adverse effect of technical regulations (labeling, packaging and testing procedures) on India’s manufactured goods exports (e.g. textiles, garments, and leather products). The study also noted that the compliance cost for producers given the requirement to use new chemicals, cleaner processes, testing, certification and packaging has been quite significant.

Chaturvedi and Nagpal (2007b) have highlighted the EU environmental standards affecting India’s exports of textile, leather etc. The study pointed that cost of compliance for textile products with MST, MUT and Eco-Tex in Germany, which focuses on the production process as well as ecological implication apart from the product itself, is quite substantial for the Indian exporters. In particular, for complying with the ban on certain dyestuff, investment over US $ 13 million is required.

RGICS (2001) attempted to estimate the compliance cost of five major export sectors in India as a response to the NTMs faced, namely Pharmaceuticals, Engineering, Leather Products, Marine Products and processed Mango products through firm level surveys. It was observed that the pharmaceutical and engineering exports were subject to various testing and processing regulations, which increased the cost of compliance. In case of leather, food processing and marine products, despite the increased compliance cost, the firms preferred to comply with the requirement in EU / US, and the cost increase varied from 8-25 percent, depending on the export market. The absence of harmonized standard in the EU caused several Indian marine exporters to considerably upgrade their

\[23\] The evidence of strategic trade policies could be conjectured as several firms reported that the compliance cost increased because of the need to use German chemicals.
facilities, in order to meet the most stringent standard as well. Similarly, the environmental restrictions on the food processing industry resulted in a significant compliance cost for the firms in that sector. In particular, the requirement of acquiring special machineries from US for exporting there was reported, which indicates deployment of strategic trade policies by the US.

Sankar (2007) had undertaken an extensive survey to understand the compliance cost for the leather sector with respect to the foreign standards. The analysis has shown that the testing requirements / substitution of the banned substances with other products increase the compliance cost of the firms, with implications on competitiveness as well. The study noted that the compliance cost for finished leather would be in the range of 2 – 4 percent. Similarly, through an input-output analysis, Chattopadhyay (2005) has also argued that abatement cost may not be very high for Indian firms across the sectors.

Perhaps compliance cost estimation suffers from a downward bias owing to market shifting strategy of the affected firms. For instance, focusing on the Shrimp-Turtle Dispute, Srivastava and Ahuja (2002a, 2002b) concluded that the sanction did not cause a major burden, at least in the short run, since the exporters shifted to alternative exports such as cultured shrimps.24

2.7 Concluding Remarks

The analysis in the current chapter reveals that the environmental and SPS-TBT related measures have emerged as major barriers on international trade over the last decade. A couple of points surface from the present analysis.

First, trade sanctions may not be the best way to tackle environmental concerns. One area of concern is that there exist certain gray areas within the WTO agreements, through which environment-related trade barriers could be erected.

24 UNCTAD (undated) also argued that many smaller units have been unable to meet the stringent environment requirements, and has hence shifted their focus to domestic and other markets.
Second, long run implications of the evolving WTO case laws are currently ambiguous; while on one hand the unilateral environmental measures / sanctions implemented by developed countries have been ruled WTO-incompatible, the legitimacy of the measures have at times not been directly criticized.

Third, the potential conflict between the unilateral sanctions under the MEAs and the multilateral obligations under WTO has already been witnessed in one dispute, and similar cases might surface again. The saving grace is that the precautionary principle based defense sought by the EU was turned down by the WTO dispute settlement panel.

Fourth, while the developing countries have so far favoured discussing the trade-environment linkage under the MEA forum rather than at the WTO, the recent events indicate towards increasing pressure on the developing countries in that forum as well. Hence the developing countries need to urgently bring their house in order.

Fifth, a considerable section of the international trade literature indicates adverse effect of the stringent environmental requirements on developing country exports and it is observed India has also suffered from these barriers. The literature also report adoption of strategic trade motives behind their imposition, i.e. providing benefits to their local players could be playing a key role in this regard. Officialization of private sector environmental standards in the US or multiplicity of standards in the EU are among the major concern areas.

Sixth, a section of the literature also suggests that the environmental policies may not divert trade of the developing countries in environmentally sensitive categories. Several survey-based analyses have also argued that compliance cost implications may not be too high for all developing country producers. This indicates that the country effect may be playing a major role here.

With these observations, the analysis in the following chapter now intends to focus on the impact of the environmental standards in partner countries on India’s trade.