THE ENVIRONMENT AND INTERNATIONAL TRADE NEGOTIATIONS

DEVELOPING COUNTRY STAKES

EDITED BY DIANA TUSSIE
The Environment and International Trade Negotiations
Developing Country Stakes

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in association with
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To Susan Strange

to whom I am deeply indebted

in memory of her spirit and pioneering mind
# Contents

*List of Tables* ix  
*Acknowledgements* x  
*List of Abbreviations* xi  
*Notes on the Contributors* xiii

## Part I Case-Studies

1. **Introduction**  
   *Diana Tussie*  
   1

2. **The Case of a Renewable Natural Resource: Timber Extraction and Trade**  
   *Raúl Sáez*  
   13

3. **Agriculture and the Environment in Developing Countries: The Challenge of Trade Liberalization**  
   *Graciela Gutman*  
   33

   *Pedro da Motta Veiga*  
   53

5. **International Pressure and Environmental Performance: The Experience of South African Exporters**  
   *Lael Bethlehem*  
   73

## Part II General Issues

6. **The International Negotiation of PPMs: Possible, Appropriate, Convenient?**  
   *Diana Tussie and Patricia Vásquez*  
   95

7. **Lessons from Trade Theory for Environmental Economics**  
   *Partha Sen*  
   115
Contents

Part III International Environmental Governance

8 Global Governance and the Comparative Political Advantage of Regional Cooperation
   Helge Hveem  133

9 Trade Restrictions for the Global Environment: The Case of the Montreal Protocol
   Jonathan Krueger  151

10 Lessons from the Mexican Environmental Experience: First Results from NAFTA
    Claudia Schatan  167

11 Regional Integration and Building Blocks: The Case of Mercosur
    Diana Tussie and Patricia Vásquez  187

12 Environmental Cooperation in ASEAN
    Franck Wiebe  205

13 The Environment and International Trade Negotiations: Open Loops in the Developing World
    Diana Tussie  225

Bibliography  237

Index  252
List of Tables

5.1 Export markets and destination, by sector, 1995 75
5.2 Direct consumer pressure, by sector and issue 78
6.1 A taxonomy of environmental standards and negotiating channels 104
4 Environment-related Voluntary Market Upgrading Initiatives and International Trade: Eco-labelling Schemes and the ISO 14000 Series

Pedro da Motta Veiga

This chapter analyses some environmental standard-setting initiatives that should produce non-negligible impacts on international trade flows in the near future, especially on developing countries’ exports. Although compliance with the standards here analysed is voluntary – in contrast to mandatory regulations – they can, under specific conditions, affect the access of developing countries’ exports to developed countries’ markets, putting a burden on the competitiveness of exports. The initiatives under analysis are the setting of eco-labelling schemes in OECD countries, especially in the European Union (EU), and the design of a series of environmental management standards by the International Organization for Standardization (the so-called ISO 14000 series). The first initiative is unilateral (or minilateral), while the second one is multilateral, which makes the comparative analysis of those processes of environmental standard-setting particularly interesting.

SOME CONSIDERATIONS ON ENVIRONMENT-RELATED VOLUNTARY MARKET UPGRADE INITIATIVES

The initiatives analysed in the following sections present some features that suggest their compatibility with GATT/WTO rules, for several reasons. In the first place, compliance with these standards is voluntary: the assessment of the costs and benefits of complying is up to the firms.
Second, these are standards governing performance, not design. In other words, they “require the product to meet a certain objective but permit it to do so through alternative designs” (Sykes, 1995), which suggests a standard-setting model both flexible and with restricted discriminatory potential as regards different process and production methods (PPMs). Third, both standard-setting processes offer the prospect of new business opportunities for developing countries’ exports, through the marketing of “environmentally friendly products” (EFPs). At least in theory, these new opportunities could be significant enough to compensate developing countries for the potential threat associated with the standard-setting process, allowing them to benefit from market “niches” in OECD countries.

This positive assessment of a standard-setting system, based on the hypothesis that firms will apply for labels or other environmental quality certificates, surely takes into account very important features of this system. However, it neglects some other features that could amplify the trade discrimination potential of voluntary market upgrading (VMU) arrangements. The effectiveness of VMU schemes depends on their capacity to induce product differentiation, such differentiation being based on attributes of “environmental quality”. However, economic costs associated with the effort of complying with these standards could prove too high in relation to the value attributed to the heterogeneity induced by the scheme. Besides, such costs could be relatively greater for foreign suppliers, and, in some cases, compliance by foreign producers could require access to some proprietary technology over which domestic firms have control (Sykes, 1995). Should this happen, the principle of non-discrimination, basic to the multilateral system, would be jeopardized and the impact of those schemes on international trade would prove significant.

It is essential to distinguish the discriminatory potential of the VMU schemes from unilateral (or minilateral) and multilateral schemes. In unilateral schemes the risks of discrimination associated with the “capture” of regulatory and standard-setting processes by domestic producers tend to be higher. In this case, interested parties have effective access to the standard-setting process, while foreign producers are excluded from it. As a result, the standard-setting process becomes a mechanism for excluding rivals from competition in the domestic market, rather than a tool for the protection of consumers. Moreover, the proliferation of unilateral schemes increases the transaction costs of exports, in so far as the risks associated with exporting activities are increased and exporters have to gather information on the various schemes in order to adapt their products to the specific requirements of each national standard – a situation that may have a negative impact on
efficiency. In addition, exporters have to deal with different conformity assessment procedures in the countries of destination for their products. In each of these stages, the costs of compliance with unilateral standards tend to be higher for foreign than for domestic producers.

These features suggest that the design of standards and the implementation process itself can have a protectionist effect, favouring domestic over foreign producers. The protectionist bias may be introduced through the decision-making process, the establishment of criteria and parameters and the system selected for the assessment of conformity. Concern over this possibility is sharply increased in the case of unilateral (or minilateral) VMU schemes. Although the discriminatory potential of VMU schemes is unquestionably associated with the standard-setting process, the effectiveness of these arrangements (measured by their ability to induce product differentiation) seems to depend on other factors, of three principal types. The first are market factors, such as price-elasticity of demand, market structure, the role of price and quality in the sectoral pattern of competition and the presence of a high replaceability among products. All these market-related factors affect the ability of firms to absorb “internalization costs” resulting from the effort to comply with the standards of VMU schemes and, beyond compliance, to use the schemes as an element of production and marketing strategies. For instance, Markandya (1994a) states that in sectors where environmental quality is a part of the overall quality of products, it is doubtful whether exporters in developing countries would be in a position to raise their prices because of environmental improvements in products or PPMs.

The second group of factors relates to the size of firms, as size seems to be a relevant variable in explaining access to information and technologies, especially when access by small and medium enterprises (SMEs) in developing countries to developed countries’ information and technology markets is involved. According to Markandya (1994a), large firms from developing countries, through direct contact with foreign buyers, have easier access to the technology and information assets needed to comply with foreign requirements than SMEs.

The third set relates to societal features, such as the values and priorities each society associates with the environmental issue, as expressed in consumer preference for environmentally-friendly products (EFPs). This is a crucial variable in explaining effectiveness of VMU schemes. The presence (or absence) of demand for EFPs determines the potential for developing production and marketing strategies based on a product’s environmental quality.
The development of eco-labelling initiatives in the EU seems to be linked to the social priority given to environmental protection. According to Sykes (1995), the treatment given to the harmonization of technical standards in the EU relies on the principle of mutual recognition, although the EU admits that, in specific fields, countries “opt out of a (community) directive to recognize the standards developed elsewhere”. Among these areas, life protection, human, animal and vegetal health and environmental protection should be highlighted, since they provide the basis for legitimately invoking the escape clauses established by the Treaty of Rome and the new directives that embody the EU’s so-called “new approach” to harmonization and mutual recognition of technical standards.

If indeed the standard-setting process for VMU schemes is liable to have a discriminatory effect against foreign producers, this is to a great extent because the characteristics of these standards are related to PPMs. This applies to both eco-labelling schemes and to the ISO 14000 series, since both incorporate the product’s life-cycle analysis methodology. These are concrete examples in which, although the core issue does not involve the generation of cross-border externalities, there is some level of demand for the international harmonization of product standards and processes.

The Uruguay Round Agreement on Technical Barriers to Trade (TBT) includes PPMs-related (voluntary) standards and (mandatory) regulations “closing one of the most important loopholes left by the Tokyo Round” (Sykes, 1995:78). This extension of the scope of the TBT Agreement also includes conformity assessment procedures, and thus it is no longer limited to the establishment of standards and regulations. On the other hand, although GATT has established a clear distinction between standards applying to products and those applied to processes, a strict specification of products may lead to the choice of specific production methods and processes, and the enforcement of product regulations may call for the verification and inspection of production methods.

These considerations suggest that PPMs-related standards and regulations may have, in principle, a high discriminatory potential across countries, even though their criteria are aimed at governing performance, not design. If foreign products are forced to demonstrate compliance throughout their life-cycle with PPMs-based criteria designed around the importing country’s regulations and standards then they will be at a clear disadvantage compared with domestic products, as regards not only their ability to comply with the set criteria, but also access to conformity assessment processes. Some eco-labelling schemes, such as Canada’s, acknowledge that the regulatory or standard compliance test must refer
solely to the environmental criteria of the exporting country. In this case, eco-labelling schemes are said to accept variations in PPMs-based criteria across countries, according to their assimilative capacities and social preferences (UNCTAD, 1994a), thus avoiding the temptation of imposing standards and rules extra-territorially.

A CASE OF AN INTERNATIONAL VOLUNTARY MARKET UPGRADING SCHEME: THE ISO 14000 SERIES

The International Organization for Standardization (ISO) was formed in 1947. According to Sykes (1995), the push for the establishment of ISO came from the United Nations, following a breakdown of certain earlier standards organizations during World War II. The ISO has an unlimited jurisdiction, and in principle it may undertake standardization initiatives relating to any product or service market. The ISO is funded by its members, which are country representatives, either government agencies or private sector entities.

The decision-making process in the ISO begins with the establishment of a working group or a committee of technical experts to analyze the possibility of setting standards in a specific area. Hence, if the committee can reach a reasonable “consensus” among its members, it develops “recommendations” to be sent to member bodies for approval. A recommendation becomes a standard after a sufficient number of member bodies accept it. Until the 1970s, the ISO had a unanimity rule, which was later turned to a 75% rule, for determining when to convert a recommendation into a standard. Once this conversion is made, ISO member nations are under no obligation to adopt the standards in their markets, even if they have voted in favour. However, the decision to set a standard, based on a wide majority of votes, suggests that widespread adherence to it will follow.

Enforcement of ISO standards (and those of other international standard-setting entities) is not covered by international law, but experience indicates that many potential technical barrier issues can and will be addressed reasonably well. Developing countries may protect themselves against the emergence of many technical barriers to their export simply by ensuring that their domestic industries participate effectively in these organizations.

In August 1991, the ISO established its Strategic Advisory Group on the Environment (SAGE), to assess the possibility of creating international
Eco-labelling Schemes

standards for environmental management and to evaluate whether those standards could be used to promote a common approach to environmental management, similar to the model adopted for quality management, that would increase organizational ability to reach and measure improvements in the environmental performance of firms, facilitate international trade, and remove trade barriers (Vilmar, 1995). In March 1995, the SAGE concluded its work confirming the possibility of reaching those three goals through the setting of international standards for environmental management. Hence, the ISO established a new technical committee – TC-207 – to develop international standards in this field. TC-207 was split into six sub-committees, covering different areas: environmental management systems, environmental auditing, environmental labelling, environmental performance assessment, life-cycle assessment and environmental features in pattern-products. The whole series is in essence a comprehensive checklist of practices needed to achieve rigorous compliance with environmental legislation, anticipate environment-related problems, and measure the consistency of environmental performance.

The standard ISO 14000 provides the principles and elements of an environmental management system (EMS), which is said to be an integral part of an organization’s overall management responsibility. In this sense, the EMS should be coordinated with existing efforts in other areas of an organization. Special reference is made to small and medium enterprises (SMEs), where resource base and organizational structure can limit implementation. Besides suggesting for SMEs the adoption of cooperative strategies with larger clients, other SMEs, standardization organizations and research centres, the standard recognizes that SMEs may have unique needs and that this should translate into the choice of specific paths towards the implementation of standards.

In accordance with this guideline, standards have been formulated “to be applicable to all types and sizes of organizations and to accommodate diverse geographical, cultural and social conditions” (ISO, 1994: 10). Hence, they do not “establish absolute requirements for environmental performance beyond commitment, in the [organization] policy, to compliance with applicable legislation and regulations and to continual improvement” of its EMS. As a consequence, these standards are not “intended to change or increase an organization’s legal obligations”.

In Appendix A to ISO Standard 14000 (Environment Management Systems – General Guidelines on Principles, Systems and Supporting Techniques), examples of environmental guiding principles are provided. Principle 12 refers to uses of environmental measures in trade policy. It
states that "unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus" (ISO, 1994: 48). This is the only reference to trade issues in both ISO 14000 and ISO 14001 (Environmental Management Systems – Specification with Guidance for Use). While the former details the steps to implement an EMS, the latter describes the core elements of an EMS environmental policy planning, implementation and operation, checking and corrective action, and management review.

These documents reveal that the ISO 14000 series should constitute a powerful tool for voluntary market upgrading. Among the potential benefits associated with an effective EMS, the ISO 14000 standard refers to "meeting customer's environmental expectations" and "enhancing image and market share", thus leading to the achievement of "significant competitive advantage" (ISO, 1994: 8). Accordingly, the draft document of the ISO 14040 standard on life-cycle assessment (LCA) emphasizes the possibility of using this specific tool for marketing a company's products and/or services. The limits of LCA methodology are clearly stressed in this document: it necessarily involves "assumptions, value judgements and trade-offs, and therefore is not a purely objective scientific endeavour". In addition, LCA "is one of several environmental management tools and may not always be the appropriate tool to use in all situations". Besides these features, "the results of an LCA focused on global and regional issues often are not appropriate for local applications", and "the judgement of environmental disturbance is a subjective procedure and reflects factors such as social values and preferences". Accordingly, it is stressed that, while maintaining its technical credibility, LCA should be "flexibly, practically and cost effectively applied so that it is consistent with the differing goals and needs of relevant stakeholders".

Some concern on the use of environmental management tools is found in the draft of ISO standard 14020, dealing with environmental labelling. This draft establishes nine principles aimed at providing the process of eco-labelling-setting, with attributes such as accuracy, accountability and transparency. Accordingly, "the factual and technical basis for environmental labels/declarations must be verifiable", and "information concerning the procedure and methodology used to support environmental labels/declarations shall be available and provided upon request to all interested parties" (ISO, 1995a: 5).

Although stressing that the development of such labels "should,
wherever appropriate, take into consideration the life cycle of the product or service”, it is admitted that “the extent to which the life cycle is considered may vary depending on the type of … label, the nature of the claim, and the product category” (ISO, 1995a: 7). The issues relating to the presence of requirements that generate “unnecessary cost and administrative complexity” for firms interested in obtaining the label are also a matter of concern for the ISO members, according to this standard. That is why Principle 9 of the draft suggests that criteria and standards applicable to eco-labels should be developed through a consensus process involving all interested parties. The possibility of procedures and criteria for environmental labels or declarations creating “unfair trade restrictions” or “discriminating in the treatment of domestic and foreign products and services” is explicitly rejected through Principle 7 of the standard, which describes “instances of potentially unfair trade barriers” (ISO, 1995a: 7). Among these instances, some are worth mentioning: “requirements to meet specific national or local legislation, regulations or standards, rather than performance objectives”; “restrictions on testing methods”, discriminating against foreign producers; “administrative requirements which limit access by foreign producers to activities or programs related to environmental labels/declarations or their ability to comment on the development of criteria for environmental labels/declarations”; and “requirements to conform with nationally developed technologies or manufacturing process”.

Most of the criticism of existing unilateral eco-labelling schemes on the grounds of non-discrimination against foreign producers are explicitly mentioned in the draft of ISO standard 14020. A task group created by the working group in charge of designing this standard prepared a discussion paper on Principle 7, which recognizes that discrimination against foreign producers can result from the establishment of eco-labelling schemes, “despite the voluntary nature” of these programmes (ISO, 1995a: 9). In a previous version of the draft, additional comments were a part of Principle 7: the first one “provides examples of suggested criteria which may legitimately be adopted and used to discriminate between products”. The second one “provides examples of suggested objectives which, if attained, may eliminate or reduce the potential for standards and criteria to create unfair trade barriers”. As concerns have been raised about the relationship between these additional sections and international trade rules (GATT/WTO) or multilateral environmental agreements, the comments were deleted from Principle 7 and set out in italics in the last version of the draft.

The instances in which trade restrictions should be admitted would
include, according to the previous text, "items covered by international conventions and treaties, such as ozone-depleting substances, endangered species, etc." and "products or services which current scientific data show to have a harmful effect on the environment or public health of the country that is imposing the restrictions". So it does not go beyond GATT Article XX and the Agreement on Sanitary and Phytosanitary Measures of the Uruguay Round.

The objectives to be followed so as to "reduce any potential to unduly restrict trade" are the "recognition of environmental improvements in different countries as potentially equivalent based on their overall purpose and significance, even if the improvements are different in nature (e.g., aspect of environment affected)", and "mutual recognition among environmental labels/declarations based on equivalency of procedure, criteria, and objectives".

The working group in charge of elaborating this standard is now considering three different options for the text of Principle 7, and these options differ not only on the kind of reference to be made to multilateral environmental agreements and to international trade rules, but also on the circumstances where discriminatory criteria should be identified as legitimate under these agreements and rules. A broad consensus among the members has not yet been reached, and the issue is very important for the future role of ISO 14000 series within the whole regulatory framework set up to manage TBT. The main merit of the ISO 14000 initiative is that, despite its limited capacity to discipline national policies and to police technical barriers, international standards like the ISO's can produce a paradigmatic effect on existing and future national (or regional) standards by preventing protectionist uses of those standards, contributing to the process of confidence-building among countries and making deviations from international standards and decisions that disadvantage foreign suppliers more evident and politically more costly. These features underline the benefits of "plurilateral bargains", as compared with "unilateral assessments" in the setting of voluntary environmental standards (Nicolaidis, 1995).

While international issues seem to be adequately addressed in ISO-like processes of standard-setting, a problem does exist in the access of SMEs – mainly those from developing countries – to the certificates these processes are supposed to provide. This issue is recognized explicitly in the ISO 14000 series drafts, and some suggestions related to co-operative initiatives with larger firms and other agents are made, in order to facilitate SMEs' access to the standards. For developing countries, the first step to reduce their handicap in this matter is to take an active part in the process of
international standard-setting, not only through their representatives to the ISO but also through domestic organizational arrangements.

In Brazil, the prevailing model is based on the establishment of a working group (GANA – Grupo de Apoio à Normalização Ambiental) bringing together big companies and some private and public institutions like Confederação Nacional da Indústria (CNI), Banco Nacional de Desenvolvimento Econômico e Social (BNDES) and Associação do Comércio Exterior do Brasil (AEB). As far as this initiative is concerned, SMEs are not participating in the domestic discussion of the standards drafts. Besides the lack of information and of institutional infrastructure to bring SMEs into the debate and negotiations, they are likely to face a serious restriction related to the economic costs of certification. The only Brazilian firm with a British Standard 7750 (specifically geared towards certifying the quality of an environmental management system) operates in the pulp sector and, according to its directors, the cost of this certification reached almost US$400,000.

A CASE OF A UNILATERAL VMU SCHEME: ECO-LABELLING IN THE EUROPEAN UNION AND THE IMPACT ON BRAZILIAN EXPORTS

UNCTAD (1994a: 6) has defined eco-labelling “as the award of a label by a third party to products which are relatively more environment-friendly than others in the same category, on the basis of pre-set criteria”. These labels aim at informing consumers about the environmental quality and attributes of a product. Although compliance with eco-labels criteria is voluntary, some factors suggest that this kind of unilateral (or minilateral) initiative can generate discrimination between domestic and foreign producers, favouring the former. These factors are related to the standard-setting process itself, and to the different degree of access that domestic and foreign producers have to this process. In addition, they include the selection of criteria and priority features of PPMs to be assessed: in general, those features focus on specific environmental attributes that can be attained more easily by domestic firms, and overlook environmental advantages of imported products (UNCTAD, 1994a). They also refer to the fact that eco-labelling schemes are based on a product’s life-cycle assessment, which amplifies their potential trade effects. Finally, the potential for trade discrimination is enhanced by the different costs of
certification for domestic and foreign producers. As eco-labelling schemes proliferate, they increase transaction costs for foreign producers.

Although only a small number of notable export products from developing countries are covered by the eco-labelling schemes now in force, these figures show a clear increase. In fact, of the 25 categories of products for which criteria are being set under the aegis of the EU, at least eight are on the list of Brazilian exports, in varying quantities. These include various types of paper, packaging, textiles, ceramics, footwear and refrigerators. According to UNCTAD (1994a), around 45 percent of the imports in broad product categories that have been earmarked for eco-labelling in the EU originated in developing countries. On the other hand, in so far as the so-called “dirty” industries are perceived as constituting a large proportion of exports from developing countries, it may be assumed that eco-labelling initiatives could have a negative impact on natural resource-intensive industries and on heavy polluters, for whom the costs of compliance with environmental criteria in relation to the total production and investment costs would be particularly high.

**EU Eco-Labeling Systems and the Brazilian Textile Sector**

Brazil’s textile industry is characterized by technological and managerial heterogeneity. Within the same market segment, one can observe the coexistence of modern companies that operate with advanced technological standards and strategies, partially modernized companies with updated equipment at strategic stages or old machinery run under rigid quality controls with advanced design skills, and a large number of companies with outdated technological and managerial standards.

A relatively small number of companies account for the huge bulk of textile exports from Brazil (Garcia, 1993). Among the 456 companies that exported textile products from Brazil, the 10 largest firms accounted for 46% of the total exports, and the share of the 20 largest firms was as high as 60% of the total. It should be noted that all are sizeable companies with over 500 employees. Exports are dominated by intermediate or finished products using natural fibres, particularly cotton. Approximately 47% of threads and 73% of textiles exported in 1991 by Brazil used cotton. Among textile products that incorporate natural fibres (cotton, silk, jute) grown in Brazil, for certain types of cotton skeins, Brazil’s share in international markets reached 6.5% and cotton bed sheets 4.7%. Export orientation makes the sector particularly sensitive to life-cycle analyses of
products using environmental criteria related to the production and use of cotton fibres. Managers of large export companies seem quite aware of this fact, and are attempting to incorporate this variable in their strategies.

A variety of private eco-labelling schemes are currently being proposed by EU countries (Jha and Zarrilli, 1994). The German textile industry has proposed a product label – MST – and a process-related label – MUT. Under both schemes, criteria would cover air, soil and water pollution during the production process. German industry has already introduced targets for processes with criteria for the use of power, chemical products and pollution emissions, which places it in a favourable position compared with imported products. Additionally, very strict criteria on the use of dyestuffs may also force companies aiming at the German market to import such materials from Germany, and might cause discrimination against natural dyes produced by developing countries. An association of German and Austrian research institutes has also developed the ECO-TEX scheme, which defines criteria that basically focus on controlling the possible impact on human health resulting from the use of textiles. Production standards are similar to those of German labels, and the effect expected on competition in the domestic markets also tends to be the same.

Under the aegis of the eco-labelling schemes launched by the EU in 1992, Denmark was appointed as the lead country to develop and propose eco-criteria for T-shirts and bedlinen made of cotton or cotton-and-polyester blends. The criteria developed refer to different stages in the lifecycle of the products, particularly to the raw material production process, the fabric manufacturing process and, to a lesser extent, to finished products. These may thus constitute a benchmark not only for the specific products (T-shirts and bedlinen) but for textile products in general.

Recent interviews with major exporters in the clothing sector showed that large firms are adapting to and coping with environmental demands made directly by their European importers, particularly the Germans. Although these requirements have not yet had a major effect on their exports, they have generated additional costs in view of the test carried out for certifying exported products. The requirements formulated by the importers covered various aspects of the production process, such as the use of production processes that give rise to pollutive discharges during local production by the company, the use of raw materials considered toxic, and use of production processes considered virtually unacceptable in terms of noise or air pollution emission. Compliance would involve alterations in the production process, increased demands for compliance with environmental standards in the companies’ procurement policy for
input and raw materials, the installation of pollutant emission control equipment and changes in the presentation and packaging of products.

Most of the cotton bought by the Brazilian clothing industry used to be produced in Brazil, with low pesticide use and harvested mostly by hand. With large-scale cotton imports by Brazilian industry on the rise, the interviewed companies admit that they are not in a position to state that their cotton is pesticide-free. Chemical inputs are supplied to the textile industry by a restricted group of multinational companies with production plants in Brazil. Their supply of products in Brazil depends on the characteristics of local demand, which is generally not very exacting as regards quality and environmental criteria. This means that chemical companies continue to produce in Brazil inputs that are no longer used in Europe or United States, or perhaps have even been banned. Brazilian demand for products compatible with European environmental regulations therefore originates in major exporters of textile and clothing. Although they exert pressure on chemical industries to supply the inputs required by European legislation, through either local production or imports, they are unwilling to pay higher prices for them, as this would affect competitiveness. As noted below, this fact reflects the specific market power of the major export companies, and this pattern of interaction with the chemical industry does not correspond to the small and medium-textile and clothing companies in the segment.

However, smaller companies with lower adaptive capacities consider that the investment to comply with EU eco-criteria will increase their production costs. For them, compliance with most of the criteria essentially depends on renovation of machinery and equipment. The vast majority of small- and medium-sized companies, however, are not in a position to make investments in modernization. Reduction in domestic consumption is accompanied by shrinking demands for quality in the local market, so that non-export-oriented companies see investments in modernization of equipment and concern with environmental criteria as something remote from their priorities.

This suggests that the key variable for defining the capacity – and the motivation – of companies to invest in modernizing the production process, whether or not this is done specifically to comply with environmental criteria, is the importance of exports in corporate strategy, particularly in view of the increasing gap over the past few years between quality requirements levels in domestic and foreign markets, especially the EU and the United States. Even among export companies, there are substantial differences between the production processes and the products
earmarked for the local and foreign markets. These differences involve the quality of the final product, while segmentation between production lines geared to domestic and foreign markets within the plant implies that positive externalities, which could derive from the contracts with foreign markets, do not spill over into the domestic line of production.

In sum, for small- and medium-sized companies, none of the criteria is easy to comply with, on account of the shortage of funds for investment and the lack of adequate incentives to encourage compliance. These difficulties increase in step with more stringent requirements (associated with the criteria) for new investments, and the capacity and power of negotiation with the suppliers of raw materials and inputs. For major export companies, on the other hand, none of the criteria presents great difficulties, as investments in modernization of equipment are a prerequisite for their participation in the international market. As they export to markets that are environmentally demanding, incentives to make additional investments in modernization and environmental management may increase and even become economically profitable.

**The Footwear Sector**

Brazil ranks fourth in the world’s footwear sector: its 1990 output consisted of 42% plastic and rubber and 41% leather footwear, with the remaining 17% concentrated in sports shoes. Approximately 28% of Brazilian footwear production was exported that year, but the export profile differs substantially from the production profile. In fact, 92% of exports consists of leather footwear, which makes this segment essentially an export activity: almost two-thirds of the output is earmarked for foreign markets. This fact warrants particular attention, because Brazil’s leather sector has an extremely high rate of residual pollution, especially by heavy metals.

In addition to channelling most of its leather footwear to exports, these activities take place in a very specific pattern of industrial organization, characterised by concentration in two regional centres in southern Brazil – Novo Hamburgo in Rio Grande do Sul State (women’s footwear) and Franca in São Paulo (men’s footwear). This regional concentration of production has attracted new producers as well as manufacturers of input materials and equipment, while spurring the development of a technological and information infrastructure in these production centres. In addition to underwriting the participation of small and medium companies in the international market, this structuring endowed Brazil’s export
footwear sector with enough flexibility to adapt itself to constantly changing rules and global market competition conditions. This explains the sector’s remarkable export growth over the past few years, despite new Asian competitors in the international market.

This new competition led to a process of technological and managerial modernization in the industry. A recent study of the competitiveness of Brazilian industry noted that in the footwear sector some areas show technological lags, with a probable blunting of the competitive edge over competitors from Asia (Costa, 1993). Small companies, hampered by tight finances, face more difficulties in investing, which tends to accentuate this sector’s technological heterogeneity. The use of basic microelectronic equipment, though not unknown to these companies, is still not very widespread. The dissemination of computer-aided design (CAD) is limited to a few companies, and the same applies regarding stitching machines, die-cutters and equipment fitted with microprocessors.

The Netherlands was appointed by the EU as the lead country for the definition of product categories and for the development of criteria and parameters for eco-labelling for footwear. The preliminary proposal mentions footwear made of leather, rubber, EVA, nylon, polyester and cotton, provided their combined share in the total weight of the shoe is at least 90%. These criteria and parameters cover the five phases of the product’s life-cycle: acquisition of raw materials, production of materials, manufacture of the product, use of the product and waste-processing. The environmental aspects considered for each of the phases in the product’s life-cycle cover the use of raw materials (renewable and non-renewable), energy consumption (including non-renewable), discharges and emissions, various forms of nuisance (health and environmental hazards), wastes, reutilisation of products and parts thereof (including through recycling) and the repacability and durability of the products.

A preliminary assessment suggests that major concerns are concentrated on energy consumption, the emission of toxic substances and the quantities of waste during the production phase of material, energy and waste during footwear fabrication phase, and, finally, emissions of toxic substances, wastes, repacability and durability during the use and waste-processing phases. The criteria and parameters defined on the basis of these concerns focus particularly on the production of leather footwear.

Brazil’s major business associations representing the export sector are keenly aware of European eco-labelling initiatives. Nevertheless, this issue is often accorded lower priority than holding a competitive edge in export prices in the context of competition with Asian manufacturers, especially
China. The widespread feeling is that efforts to comply with eco-labelling criteria would increase production costs and product prices, making them still more vulnerable to Asian competition.

Large companies have shown concern over the difficulties in obtaining information, e.g., on inputs, as their suppliers are not yet capable of providing this. Brazilian companies are already taking steps to ensure the safety of chemical products and dyestuffs used in production processes. Many of the products under restrictions mentioned in the EU document are no longer in use. The substitution of these products resulted in higher final costs for footwear, but they are difficult to measure without detailed study. As for chrome emissions, tanneries now discharge twice the required limit. New investments would be needed in order to upgrade the efficiency of existing treatment stations. The use of PCP (pentachlorophenol) as a leather preservative is already banned in Brazil. Imported hides should comply with the guarantee certificates ensuring that PCP is not used. With increasing leather imports from neighbouring countries, this requirement will have a growing effect on the relationship between Brazilian footwear companies and Uruguayan or Argentinian tanneries. The emission of volatile substances into the atmosphere is a major problem during the leather finishing stage. Water-based products for finishing leather are available, and the replacement of products based on organic solvents is already under way. At other production stages, the emission of volatile organic substances is virtually negligible.

In general, Brazil's companies are perceived to be in a position to produce footwear that meets eco-labelling standards, but costs would be appreciably higher than for conventional products, although no data are available to measure the increase. The adaptation of the production process and the use of materials complying with these requirements becomes viable only if plans are made to develop a line of products targeting a market niche capable of paying for footwear with the characteristics required under this scheme. Even in this case, companies would need time to adapt to such criteria and parameters, especially as adaptation involves the relationship between the producers and their suppliers of input materials (leather, plastics and chemicals). The Brazilian footwear sector feels that many of the difficulties in adapting to these criteria arise from the necessary changes in the production process of leather – a core material for Brazilian exports.

Historically, the relationship between the leather and footwear sectors in
Brazil has been characterised by a low level of cooperation. Companies in the footwear sector have responded to this situation through verticalization (purchase of tanneries) and increased imports from neighbouring countries (Argentina and Uruguay). In turn, this has prompted the leather sector to shift towards modernization, a trend which, in the medium term, may streamline compliance with eco-labelling requirements.

CONCLUDING REMARKS

If we compare EU eco-labelling schemes and the setting of ISO 14000 standard series as competing paradigms for the treatment of the international diversity of PPMs and of their environmental impacts, some preliminary conclusions can be drawn. From the point of view of developing countries, the ISO 14000 standards setting seems to be a "friendlier" process than the setting of eco-labelling schemes in the EU. Not only is ISO 14000 from the beginning a multilateral negotiation, but also the setting of these voluntary standards presents some features that restrict the emergence of discriminatory international effects on trade. First, ISO 14000 standards assess an environmental management system (EMS) that is a broader and more flexible concept than the one of PPMs. Unlike EU eco-labelling schemes, ISO 14000 does not define specific criteria and parameters that could implicitly require the use of specific technologies or PPMs and then discriminate against foreign producers. Second, unlike eco-labelling schemes, which are based on life-cycle assessment, ISO 14000 does not propose the use of an exclusive methodology, especially when it involves assumptions, value judgements and trade-offs. Third, ISO 14000 standards show an explicit concern with regional and local conditions, rejecting at the same time the adoption of measures and criteria that could generate trade discrimination and imply the practice of "extra-territoriality". Fourth, as stressed by the draft of standard ISO 14000, absolute requirements for environmental performance are not established "beyond commitment... to compliance with applicable legislation and to continual improvement of the EMS".

Even though the potential trade effects of ISO 14000 standards seem to be limited, the possibility remains that the application of such standards will strengthen the structural dualism in developing countries between export-oriented firms acting in dynamic sectors and the universe of SMEs, as already seems to be the case for ISO 9000 norms. The dissemination of
VMU initiatives – including ISO 14000 standards – could also generate some opposition between developing countries and specially between middle-income and lower-income countries. In fact, in the middle-income countries, VMUs such as ISO 14000 standards could be used as a marketing tool not only for the export sectors, but also for import-competing firms threatened by lower-income countries exports.

If multilateral schemes are superior to unilateral or minilateral ones, they are nevertheless voluntary and, consequently, their enforcement falls short of ensuring that they will replace national standards. Furthermore, they will probably not be able to create a multilateral discipline for national standard-setting processes. In fact, the superiority of multilateral processes such as ISO 14000 standard-setting over unilateral schemes is only a starting-point for discussing the emerging regime-building issues in the field of trade and environment. Which kind of relationships should be established between VMU and the multilateral discipline applied through WTO? Which institutional and financial mechanisms should be created to ensure that multilateral and non-discriminatory rules prevail over national and protectionist practices?

To be sure, the control of discriminatory potential supposes, in the first place, that plurilateral bargains prevail over unilateral assessments in the standard-setting process. Subsequently, however, for plurilateral bargains to prevail over unilateral assessments for agreements on norms, the multilateral agreement must be granted reasonable means of enforcement, in order that a policed decentralisation mechanism may encourage countries to comply with international standards and to depart from national standards designed to protect domestic industry. The issue is then to identify the means and the ways to “multilateralize” the production of technical norms and standards, and to establish the superiority of multilateralism over unilateralism and even minilateralism for agreement on norms.

There are elements for an adequate approach to the multilateralisation of standards and regulation-setting initiatives in the convergence methodology used by the EU – under the auspices of the ISO or GATT, for example, high-level officials from interested nations might undertake to reach agreement on the “essential requirements” to be met by standards:

Technical experts groups in the pertinent international standards organization ... might then undertake to draft standards to meet the essential requirements and might also be authorized to issue an opinion on whether existing national standards in various countries meet the essential requirements already. (Sykes, 1995: 132)
In addition, the definition of guidelines synthesizing the essential requirements would set forth the conditions for advancing toward mutual recognition of national regulations and standards, besides making policed decentralization of the standards by WTO easier.

As far as conformity assessment procedures are concerned, Nicolaidis (1995: 150) proposes cooperation mechanisms articulating WTO and the international standardization organizations, thus creating an accreditation system referred to as “a system of centralized auditing of decentralized policing”, compatible with the scheme ISO has been developing, known as Quality-System Assessment Recognition, “for world-wide recognition of ISO 9000 quality management system registration”. This system “would ensure that a certificate granted in one country would be recognized as valid worldwide”. In fact, the point being discussed is the margin for autonomy that a multilateral discipline would allow national authorities in deviating from international standards. The Uruguay Round agreements require signatories to use international standards except when they would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, but this formula doesn’t ask its signatories to determine that international standards are insufficient for the attainment of the domestic regulation goal before discarding them.

Once more using the EU as an example, Nicolaidis (1995: 145) suggests that some forms of managed mutual recognition could be used as a convergence methodology for national standards. This would be a “managed” methodology, “conditional upon the strengthening and setting up of extant institutional coordination and safeguard mechanisms” that “avoid the cumbersome harmonization pre-requisite for free trade while at the same time avoiding giving a total free hand to home countries”.