Environmental Regulations As Trade Barriers For Developing Countries: Eco-Labelling And The Dutch Cut Flower Industry

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Abstract

The present expansion of environmental standards and regulations in industrialised countries can have significant impacts on market access of developing countries. The fear in many developing countries is that stricter product standards in the markets of developed countries will act as trade barriers for their exports. Moreover, there is widespread suspicion that environmental restrictions are sometimes used as an indirect means of protecting northern industries. This paper briefly examines these issues, focusing on recent eco-labelling schemes for cut flowers in the Netherlands. The paper concludes that that eco-labels may have a significant negative impact on the export opportunities of a number of developing countries.

Resumen

Los programas de ajuste en países en vía de desarrollo han sido tema de intenso debate desde que su puesta en práctica se convirtió en condición necesaria para que intervinieran las agencias finacieras internacionales. El tomar en cuenta las consecuencias del ajuste sobre el medio ambiente ha añadido una nueva dimensión a la discusión, aumentando rápidamente el número de estudios sobre este tema. Este ensayo tiene como objetivo revisar la literatura existente, organizando los vínculos posibles entre las políticas de ajuste y el uso de recursos naturales y de medio ambiente. Se presta una especial atención a casos de estudios que focalizan específicamente el interrogante entre el ajuste y el medio ambiente. La diversidad de las situaciones halladas sugiere que no hay respuestas genéricas al problema. Ni el enfoque optimista del Banco Mundial (que los programas de ajuste tienden a ser buenos para el medio ambiente) ni el enfoque pesimista de sus críticos (que los programas de ajuste tienden a ser malos para el medio ambiente) han sido respaldados con evidencia indiscutible. Dado que las situaciones varían de país en país, los estudios de casos son esenciales para entender mejor la problemática.

Abrégé

L'expansion actuelle des normes et réglements de protection de l'environnement dans les pays industrialisés peut avoir un impact défavorable sur les possibilité d'accès à ces marchés pour les pays en développement. Ces derniers craignent que des normes plus strictes en matière de produits, imposées sur les marchés des pays développés, agissent comme autant d'obstacles commerciaux pour leurs exportations. Ils pressentent, par ailleurs, que les arguments écologiques sont parfois déployés avant tout dans le but d'accorder une protection aux industries du Nord. Ce document examine brièvement ces craintes et soupçons. Il se concentre en particulier sur deux initiatives prises aux Pays-Bas en faveur de dispositions d'éco-étiquettage pour les fleurs coupées et sur leurs effets potentiels sur les opportunités commerciales d'un certain nombre de pays en développement. Il conclut que les exigences des éco-labels risquent fort d'avoir un effet d'obstacle anti-commercial injustifi

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Introduction

The expansion of environmental standards and regulations in industrialised countries may impair the trading opportunities of developing countries. The fear in many developing countries especially, is that stricter product standards in the markets of developed countries will act as trade barriers for their exports. Moreover, there is widespread suspicion that environmental restrictions are sometimes used as an indirect means of protecting northern industries. Given their lack of market power, developing countries may be extremely vulnerable to changing market conditions in the North, fuelled by an often intricate mixture of environmental and protectionist interests. This paper investigates some of the issues regarding environmental protection and market access in a North-South context, focusing especially on the impact of eco-labelling in northern markets.

The debate on trade and environment is often polarised between the interests of free trade and environmental protection. Many environmental groups have expressed concern that liberalisation of trade may lead to unsustainable forms of development. On the other hand, trade analysts are concerned that the use of trade measures for environmental purposes will result in trade distortions as well as act as a disguised form of protectionism.

At a high level of abstraction, the international community has reached a consensus that trade, development and environmental protection are compatible objectives (United Nations 1992). Each activity is dependent on the other two and the goals of each are inextricably linked:

- trade is needed for a more efficient allocation of resources, including environmental resources, and is a key instrument for achieving development;

- development is needed to reduce poverty and to raise resources needed for protecting the environment;

- environmental protection is needed to preserve and develop natural resources which are essential for the long-term expansion of trade and sustainable economic growth.

Recent literature on trade and the environment generally acknowledges that environmental problems are not caused by economic growth or trade as such. The root of the problem is a lack of recognition of the scarcity, and hence the economic value, of environmental resources. The inability of the market to properly reflect environmental scarcities has been convincingly analyzed to stem from market failures and intervention failures (eg, OECD 1994). These failures encourage the emergence or continuation of essentially unsustainable production methods and consumption patterns. While international trade is not a direct cause of the problem, according to the secretariat of the General Agreement on Tariffs and Trade (GATT), it can operate as a 'magnifier' (GATT 1992). The widespread lack of well designed and effective environmental policies, especially in the international arena, suggests that international trade can therefore exacerbate existing misallocations and environmental mishaps.

The general aim of environmental trade policies should, therefore, be the internalisation of externalities in market prices without creating or exacerbating market failures or creating unnecessary obstacles to trade. The fact that environmental endowments and preferences vary from country to country does not contradict the conduct of free trade; indeed, these differences are the very reason for trade. Nevertheless, demands often arise for the harmonisation of

environmental standards and for the introduction of countervailing trade measures to equalise environmental control costs. Industries often consider that lower environmental standards in competing countries provide unfair trade advantages. Some environmentalists fear that free trade may result in the lowering of domestic environmental standards in order to meet foreign competition. Politicians may be willing to listen to these demands. US Senator Boren, for example, introduced legislation in the US Congress to countervail the 'social dumping' allegedly resulting from lower standards abroad. He proposed such proposals on the grounds that:[1]

> "We can no longer stand idly by while some US manufacturers [...] spend as much as 250 per cent more on environmental controls as a percentage of gross domestic product than do other countries [...]. I see the unfair advantage enjoyed by other nations exploiting the environment and public health for economic gain when I look at many industries [...]."

Similar sentiments have also been vented in Europe about the import trade from both developing countries and Eastern Europe. It is obvious that there is a need for careful analysis in this area. Several international organisations, such as the World Trade Organisation (WTO), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Environmental Program (UNEP), and the Organisation for Economic Co-operation and Development (OECD) have taken up the challenge and established work programmes on trade and the environment. Trade and the environment is also a priority research area in the CREED programme, of which this paper is an intermediate result. Another focus of the CREED programme in this area is an empirical investigation into the incidences and effects of environmentally-induced trade barriers in OECD markets and their effect on developing countries' export opportunities, using UNCTAD's GREENTRADE database. The results of this study, which is a joint effort between the authors and UNCTAD staff, will be reported later this year in the CREED publication series.

This paper focuses on just one of the many issues identified: the potential trade impacts of the proliferation of eco-labelling schemes in northern markets, based on the concept of integrated chain management. The issue is illustrated with a case study of eco-labelling schemes for cut flowers in the Netherlands and their potential impacts on the trading opportunities of a number of developing countries.

Following a general discussion on the position of developing countries with respect to the environment, we briefly examine the main multilateral trading rules, as laid down by the GATT (now WTO). We introduce the environmental policy concept of integrated chain management and its practical implementation in eco-labelling schemes. After that a case study on Dutch eco-labels for cut flowers and their potential consequences for developing countries' exporters is presented. Finally, we draw a number of conclusions.

[1] International Pollution Deterrence Act of 1991, statement of Senator David L. Boren, Senate Finance Committee, October 25, 1991. Cited from Bhagwati and Srinivasan 1995.

The Position of Developing Countries in the International Environment Debate

At a high level of abstraction, environment, development and trade can be reconciled with the twin objectives of preserving the benefits of the free trading system, while moving toward strong environmental protection at the national and international levels. Deriving from theoretical abstractions, incompatibilities and tensions increase in number and complexity, especially between (groups of) countries with different economic and environmental policies and standards, ie, developed and developing countries. These differences include cross-country differences in development level, environmental endowments, environmental pressures and differences in the perception of environmental risks and preferences for environmental quality.

At the 1992 UNCED conference two things became abundantly clear: in developing countries i) concern about economic development take priority over environmental concerns, and (ii) local problems take priority over global environmental problems (Verbruggen and Opschoor 1994). Developed countries tend to opt for relatively stringent environmental standards which they are inclined to 'force' upon the rest of the world, either for the sake of the environment or to 'level the playing field' from the point of view of international competitiveness. By contrast, developing countries often conceive this as an unjustified restriction of their export prospects and development aspirations. This fundamental discrepancy frustrates their efforts to reconcile trade and environment in the design and implementation of policy.

An important principle in international environmental law is the principle of 'common but differentiated responsibilities' to conserve, protect and restore the health and integrity of the Earth's ecosystem for developed and developing countries. With regard to the word 'differentiated', Principle 7 of the Rio Declaration instructs developed countries to take the lead in the pursuit of sustainable development, in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. This principle is, for example, incorporated in the Climate Change Convention where developed countries have been committed to take the lead in addressing climate change.

These differentiated responsibilities between the North and the South have far-reaching consequences, especially in the area of trade and environment. It means nothing less than that the North attributes a relatively larger part of the so-called global 'environmental utilisation space'[2] in favour of the South.

The attributes of (a part of) the environmental utilisation space in favour of the South, may well, in the future, affect international competitiveness and trade. In economic terms it means that the South is afforded relatively more of the world's environmental resources than it is currently using. In economic terms this will result in a relatively lower marginal valuation of the environment in the South, which may change international competitive relations. The lower marginal valuation of the environment will be expressed in either lower environmental standards or more time to comply with higher, ie, northern, standards. Confronted with increased competition, northern industry is likely to perceive this as unfair and call for border adjustment measures to level the playing field. However, yielding to these demands would create a somewhat curious position where the North would, on the one hand, grant developing countries advantages in international environmental agreements by acknowledging differentiated responsibilities, while, on the other hand, curtailing some of these advantages by restricting market access.

The regulations and measures currently used in the North are often not deliberately geared towards protectionist interests, but in effect they may reduce southern export and development prospects. This contradicts the principal objective that the developed countries should make space for the developing ones.

Thus, a genuine reconciliation of trade and environment implies that making space for the South and the notion of differentiated responsibilities are taken seriously by the North. The latter should then afford to the South relatively lower environmental standards and longer adjustment periods to comply with international environmental standards, without curtailing its access to northern markets.

[2] The notion of environmental utilisation space (Opschoor 1987, 1992; Siebert 1982) is derived from the production possibilities set used in economic analysis. The production possibilities set describes all patterns of inputs and outputs that are feasible for a given firm or, indeed, an economy. This set is limited by the amount of inputs and the technological possibilities of the firm or the economy. The environmental utilisation space is, in a way, a dynamic analog to the production possibilities set, in that it describes all patterns of inputs and outputs of an economy (or the world economy) that are feasible -given environmental and technological constraints- without reducing the future size of this space. For practical purposes two elements of the environmental utilisation space are important: its size and its attributes. The establishment of its size seems, in the first instance, a scientific problem. This is not the place to ponder the difficulties of an objective assessment; it suffices to say that these difficulties are vast. The uncertainties surrounding the Climate Change problem illustrate the point. In other words, a purely scientific determination of the necessary minimum stock size of many environmental goods is virtually impossible. This means that risk assessments, and hence, societal valuations, are inevitable. In addition, societal valuations are also needed in determining the scope of substitution possibilities between man-made capital and environmental goods and among different environmental goods, and in assessing the prospects for size-enlarging technological development (Den Butter and Verbruggen 1994). Therefore, given some tentative assessment of the size of the environmental utilisation space, the second question concerns the attributes of this space to different countries and economic agents. Globally, the attributes of the environmental utilisation space between the North and the South is the most salient. It will be clear that both questions can only be resolved through international negotiation.

International Trade Rules and Environmental Protection

The basic legal international context in which trade and environment interact is the GATT and its successor, the WTO. In this section we briefly examine the question whether the WTO rules allow for high levels of environmental protection at national and international levels whilst maintaining its primary goal of liberalising trade.

The WTO rules are formulated and interpreted by its Contracting Parties. As there has not yet been much fundamental discussion on trade and environment at this level, recourse is taken to the preliminary views of the secretariat. According to the secretariat, GATT rules do not essentially place any constraints on a country's right to protect its own environment against damage from either domestic production or the consumption of domestically produced or imported products. Generally speaking, a country can do anything to imports or exports that it does to its own products, and it can do anything it considers necessary to its own production processes (GATT 1992).

The chief rule of the WTO is non-discrimination, both between different suppliers of goods and services in the world market (Most-Favoured Nation), and between foreign and domestic suppliers (National Treatment). Other important principles and concepts are: transparency, least-trade restrictiveness, necessity and the concept of like products. The GATT and numerous other bilateral and multilateral trade agreements contain exceptions to the general principles for environmental reasons. Yet, there is discussion on the efficacy of these provisions.

In their interpretation of GATT rules as they relate to trade-and-environment disputes, GATT Panels have introduced two rather strict distinctions: between products and production processes and methods (PPMs), and between domestic and international environmental problems. According to this interpretation, the GATT rules place no constraints on the ability of countries to use appropriate policies to protect their environment from damage associated with the consumption and disposal of domestically produced or imported goods as well as damage emanating from domestic production activities. The policies directed towards domestically produced or imported products may include so-called complementary trade measures aimed at enhancing the effectiveness of national environmental policy measures, provided these measures are applied in a non-discriminatory way. Concern for the possibility that technical or other kinds of (complementary trade) regulations may create unnecessary obstacles to trade has led to certain multilateral disciplines with respect to transparency, least-trade restrictiveness, necessity and the concept of like products. Thus, the line of reasoning of GATT/WTO is that differences in environmental endowments and preferences should be reflected in cross-country comparative advantages, as far as national environmental problems are concerned.

These comparative advantages may then reflect two phenomena. First is the case where environmental preferences are shared equally by all countries and all countries would hence adhere to the same international ambient standards; differences in the terms of trade among countries would reveal comparative advantages and disadvantages reflecting cross-country differences in environmental endowments and environmental carrying capacities. The second case is where environmental preferences between countries may differ, which, according to the GATT/WTO secretariat, is a legitimate cause for trade. Unilateral trade measures exerting an extraterritorial impact, ie directed towards production processes in other countries, are thus inconsistent with the GATT/WTO rules. The major reasons for this position are: it would distort

trade, it would interfere with a country's sovereignty, and above all, it would invite a flood of import restrictions as countries are always inclined to impose their own environmental as well as social policies on other countries to improve international competitiveness. This discrimination would unjustly favour economically large and powerful countries, and could, by limiting market access of developing countries, be counterproductive to the goal of sustainable development.

The next section examines a specific environmental policy and its potential implications for trade.

Integrated Chain Management in Environmental Policy

Integrated chain management, or life-cycle management, is a central and rapidly spreading environmental policy concept with potential to create new conflicts along the trade-and-environment interface. Integrated chain management assesses the entire chain of a particular product process, from 'cradle to grave', to determine the most effective points of environmental policy intervention. The overriding objective of integrated chain management is to minimise the total environmental impact along the entire chain, where, according to current practice, the environmental impact is measured in physical units. If the chain extends over several countries, however, compatibility with criteria derived from international trade principles might be at risk. The criteria are:

- the strict distinction between products and PPMs;
- the inadmissibility to discriminate between like products on the basis of PPM differences;
- the sovereignty of each country to determine its own PPMs (as far as non-transboundary environmental problems are concerned).

All three criteria are negated in the life-cycle concept.

This tension seems to be principally insoluble, unless through voluntary cooperation in the framework of product or substance-specific international environmental agreements. This is so because the perception of optimal environmental intervention along the chain according to the environmental authority of the importing country may differ from the perception of the authorities in exporting countries. If trading countries differ much with respect to environmental endowments and preferences for environmental quality, it is unlikely that they will pursue equivalent environmental objectives.

There are two options: the first option is that differences in environmental standards are simply accepted. This implies that integrated chain management is unfeasible in an international context. From an economic point of view this makes sense. If each country determines its environmental standards through a trade-off between its preference for environmental quality and its environmental endowments and carrying capacities, international comparative cost differences will also reflect environmental cost differences. Per country, the situation is optimal. However, from an environmental point of view, the total environmental impact associated with the entire life cycle will not be minimised.

The second option is that a country at the end of the life cycle of a product tries to force process standards upon countries taking part in the earlier part of the production chain. An importing country may wish to do so because i) it considers the production chain part of an international environmental system, ii) it tries to pursue global minimum levels of environmental protection, or iii) the environmental impacts associated with separate parts of the chain are not independent. The latter is the case if the environmental effect of one phase is caused by, related to, or would be avoided by PPMs in other phases. The environmental principle of 'rectification at source' is at stake here. In certain cases it may be more efficient and more economic to control the production process rather that the product itself to ensure certain product characteristics. Quite often, PPMs are closely related to the product. Sometimes it may be technically difficult or even impossible to control product characteristics through product inspection. If trade measures

induced by these three motives are not taken in the context of an international environmental agreement, there is a real danger of environmental or 'green' protectionism.

An illustrative example of the 'life cycle approach' and its impact on trade is the adjudication of an eco-label.[3] Eco-labelling is, in fact, a form of product differentiation. If successful, the labelled products will receive a premium in the market, thus giving an incentive to producers to switch to environmentally-sound production methods[4]. Basic conditions for the success of an eco-label is that the label is credible and that there are enough consumers who are willing to pay a premium for the environmentally-sound product.[5]

The criteria for the award of such labels usually call for an overall assessment of the ecological impact of a good during its entire life-cycle - 'from cradle to grave'. Comparing the different types of environmental impacts associated with the product's life cycle is very difficult and principally subjective. There is no general agreement on how to weigh different types of environmental impacts, nor on a procedure for evaluating the net or total environmental impact of a product (Jha and Zarilli 1993).

The danish eco-label on paper products shows that integrated chain management does not always take account of environmental endowments and preferences in foreign countries. One of the criterion for the award of this eco-label is the amount of sulphur emissions during the pulp and paper production. A reduction of sulphur emissions in Europe alleviates the phenomenon of 'acid rain' that inflicts damage upon certain countries in Europe. However, a similar reduction of these emissions elsewhere (outside Europe) will not benefit Europe, nor is it certain that it will generate net benefits to other areas (Jha and Zarrilli, 1993). Examples of this kind abound.

Some developing countries are concerned about the consequences of integrated chain management because they feel they will be forced to comply with stringent standards formulated by developed countries. This has two major disadvantages for developing country exporters: first, they may have to incur additional costs in order to comply with the relatively high standards imposed; second, because they do not participate in the design of these measures, are less informed, and hence, cannot anticipate these measures, they will have to bear the cost of adapting late.

It is important that developing countries take part in the international coordination process, so that their environmental circumstances and preferences can be taken into account in the design of product-related measures. This is especially relevant for eco-labelling schemes and recycling policies. At present, in formulating these schemes and policies, developing countries are often neither consulted nor are their interests explicitly taken into account. This may result in reduced market access for developing countries' exports, at least in the labelled 'high environmental quality' segment of the market.

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[3] Eco-labels can in principle be based on product characteristics, on production methods or on a combination of the two. In this report we focus on eco-labels based on production methods.

[4] It somehow remains curious that consumers have to pay more for an environmentally sound product, while the 'dirty' product is available in the market place at a lower price. Do only idealists have to bear the cost of environmental care?

[5] In fact, there should be excess demand for the labelled product. To be able to fetch the premium, the supply of labelled products should not exceed the potential demand. This puts a cap on the fraction of products in a product-group that can be awarded with a label.

While the fears of developing countries are legitimate, the other side of the coin is that product-related measures in northern markets may also create new export opportunities for developing country exporters. First, by meeting the product standards in northern markets, a number of potential (southern) competitors may be left behind. Second, in case that an export product of a developing country is awarded an eco-label in northern markets, greater market opportunities can be expected. An eco-label is not only an environmental certificate, but it is often also a mark of quality. Thus, with the help of an eco-label, developing country exporters can overcome the often unjustified poor quality image of their produce.

Finally, it has been suggested thus far that the impact of eco-labels on the trading opportunities of developing countries has, in general, been small (Salzman 1995).

Dutch Eco-Labels for Cut Flowers and Market Access for Developing Countries

In this section we discuss two eco-label initiatives for cut flowers in the Netherlands. Our view is that eco-labelling reflects a concerted effort by the sector to confront economic difficulties. This section is partly based on Verbruggen, Jongma and Van der Woerd (1994).

Structure and performance in the Dutch horticultural sector

The Netherlands have a long-standing tradition in the production and trade of horticultural products; this includes vegetables, fruits, cut flowers, bulbs, pot plants and trees. Horticultural products are grown on bare soil, in greenhouses and increasingly on artificial substrates. In 1991, the total production value of the horticultural sector amounted to over Dfl 12 billion, of which 80 per cent was exported. Value added of greenhouse gardening amounts to one per cent of Dutch GDP. Horticultural exports constitute four to five per cent of total Dutch exports (LEI/CBS 1993).

More than 60 per cent of the production value is produced in greenhouses under artificial conditions, using low-skilled labour; it is also relatively capital intensive and above all energy intensive. Compared to other industries, it has one of the highest shares of energy costs in total production costs (about 13 per cent).

Dutch horticulture has a market share of 60 per cent on the world market for cut flowers and pot plants (Hack and Heybroek 1992). For these products, Dutch auctions, in fact, set world market prices. More than 85 per cent of exports are directed towards other EU-countries, predominantly to Germany.

Auctions play a prominent role in the production and trade of horticultural products. The Dutch auction system is, in essence, still the traditional public sale at which goods are sold to the highest bidders. At present, the bidding procedure is fully electronic and the auctions are also involved in quality control, marketing and the logistics of export trade. Two flower auctions dominate the trade in cut flowers and pot plants, namely Flower Auction Aalsmeer and Flower Auction Holland. Together these two auctions control more than 80 per cent of the trade in cut flowers and more than 90 per cent of the trade in pot plants. Only a minor share of the total trade in cut flowers and pot plants is traded without intervention of an auction. Foreign suppliers can offer their produce for auction at the Dutch auctions.

Foreign supply has increased rapidly over recent years, predominantly tomato imports from the Canary Islands, Spain and Morocco (22 per cent of auction turnover in 1992) and cut flower imports from Israel (9 per cent of auction-turnover; LEI 1992). Emerging competitors are Spain (paprika, cucumber), Columbia, Thailand, Zimbabwe, Kenya and Ecuador (all cut flowers) and Denmark (pot plants). Other countries are, for the time being, of lesser importance.

The horticultural sector under stress

The horticultural/greenhouse sector in the Netherlands is facing difficulties on several fronts. First, with the exception of pot plants, market prospects are generally poor: competition from foreign growers is steadily increasing; further efficiency gains in supply are difficult to realise; and the comparatively high costs of both low-skilled labour and energy place a heavy burden on

the sector's economic performance. Second, some greenhouse products have a bad reputation today, especially in the German export market: certain vegetables have a poor quality image while cut flowers receive negative publicity for environmental reasons. Third, after years of delay and poor enforcement, environmental standards for the horticultural (greenhouse) sector are being tightened. Clear environmental objectives have been formulated and will be enforced, particularly a reduction in the use of energy, pesticides, insecticides and chemical fertilisers. To comply with these environmental objectives, substantial investments in alternative cultivation methods and capital equipment are required. It is expected that 20 to 30 per cent of the greenhouse growers will face serious economic difficulties in the near future, especially those with small firms (Van der Woerd and Rosdorff 1993).

Eco-labelling initiatives in the horticultural (greenhouse) sector

In response to these problems, various counteracting initiatives have been taken. Environmental management systems have been introduced at the firm level, more environmentally-sound technologies have been developed and communicative instruments have been strengthened. Also, a number of eco-labelling schemes have been developed. It is important to note that these eco-labelling initiatives are intended to meet three interrelated objectives, namely:

- improvement in international competitive position, either by the creation of segmented markets for horticultural (greenhouse) products; or

- improvement of the overall product quality image; and/or

- Improvement of the environmental performance of the horticultural (greenhouse) sector.

The eco-labelling initiatives are thus primarily a response to internal, sectoral problems. Therefore, these initiatives are considered to be a concerted effort by the sector to overcome economic difficulties and allay criticism for its quality and environmental performance. This approach has been accompanied by more defensive approaches eg, lobbying for lower environmental standards or longer compliance periods, negotiating lower prices for natural gas, and even the outright denial of the quality issue. As will be explained, these defensive, in some cases protectionist, elements may also creep into the eco-labelling initiatives.

We will discuss two Dutch eco-labelling initiatives for cut flowers in more detail: the eco-labelling scheme of Flower Auction Holland, and the Environmental Quality Mark by the Foundation 'Milieukeur'.

The eco-labelling scheme of Flower Auction Holland. Auctions play a crucial marketing and logistic role in the horticultural sector in the Netherlands. Until recently, however, the auctions did not consider themselves accountable for the environmental consequence of horticultural production. This attitude changed in the early 1990s, when it became evident that the public image of the horticultural sector was affected, and with it the auctions's future prospects. Flower Auction Holland (FAH), one of the two largest auctions, developed a classification scheme for cut flowers and pot plants that provides information on the environmental behaviour of firms, thus on various environmental effects of production processes. The FAH classification scheme is directed toward firms that grow cut flowers and pot plants and are registered with FAH. The objective of the scheme is to improve the national and international market position of cut flowers and pot plants sold through FAH by improving both the environmental and quality image. The classification scheme should encourage firms to perform better in these respects,

since it classifies firms in environmental classes, takes account of the environmental efforts of firms and provides financial incentives through higher auction prices for the products from higher classified firms. The FAH classification scheme may be considered as an auction label: the flower trade is informed about the environmental classes through a label on the auction packaging.

The FAH classification scheme deviates from the concept of integrated environmental management. It takes four environmental themes into account, namely crop protection remedies, fertilisers, energy use and waste. For each of these environmental themes, the FAH formulated standards on three levels of stringency. Standards are set for each type of flower cultivation. These standards, of course, are closely related to the environmental objectives for the horticultural (greenhouse) sector, laid down in various national environmental policy plans. They typically reflect the environmental circumstances and societal preferences in the Netherlands. On the basis of these three standard levels, the firm's environmental performance in each of the environmental themes is determined, with the result that they are awarded points per theme, and accumulated, in the overall environmental record and classification in classes A, B or C. To be able to accumulate, the relative weight of each theme has to be determined. There is a provisional agreement on the following relative weights, see Figure 1.

Figure 1 Relative weights of environmental themes in the FAH classification scheme

	Crop protection remedies	Fertilisers	Energy use	Waste	Points
Level 3	1	1	1	1	
Level 2	4	2	2	1	
Level 1	6	3	3	1	
Total points firm X					

Environmental Class A: 10 - 13 points
Environmental Class B: 5 - 9 points
Environmental Class C: a minimal requirement is to register for all themes

For instance, if a firm for a specific flower cultivation uses crop protection remedies according to level 1, fertilisers according to level 3, energy according to level 1 and produces waste according to level 2, the firm receives 6+1+3+1=11 points. For that flower cultivation, the firm's produce is classified in class A.

The FAH classification scheme has been is in operation since 1993 and firms are invited to register. To be classified, firms have to sign an agreement with the FAH and they are obliged to provide the necessary data on all four environmental themes every two weeks. The auction has authority to scrutinise the reliability of the data with the help of experts and firm inspections. Firms are excluded from participation if their data prove to be incorrect.

FAH aims to achieve full participation of its member firms. The current efforts to extend the classification scheme to all flower auctions in the Netherlands have received a positive response so far. Ultimately, the goal is to introduce the scheme in all markets of the European Union within a few years.

Plans are also being considered to open the FAH classification scheme to foreign growers that sell their products through the Dutch auctions, either via importers or directly, as a foreign

member of the auction. As indicated above, the share of foreign-grown flowers in the auctions' turnover varies from six to fifteen per cent and is steadily increasing. These imports originate from about 45 countries. The two largest flower auctions in the Netherlands receive increasing numbers of requests for membership from foreign suppliers.

In order to become eligible for participation in the FAH classification scheme foreign firms have to maintain a reliable environmental accounting system to be able to provide the necessary data per environmental theme. Certain monitoring requirements should be fulfilled and occasional checks on data reliability should be performed. To be awarded a label, foreign producers have to meet the standards levels and weights of the FAH classification scheme. According to the designers of the FAH classification scheme, an energy equivalent for international transport from the exporting country to Europe or the Netherlands has to be taken into account, although it is not yet clear in what way and with which weight.

Environmental Quality Mark for cut flowers. The independent foundation 'Milieukeur' (Environmental Quality Mark) is the competent body for the Dutch eco-label award scheme. The Foundation is also responsible for the implementation of the EC eco-label in the Netherlands. Since September 1993, a number of products in a limited number of product groups have been awarded eco-labels.

Recent activities include the establishment of a procedure for the development of an environmental quality mark for cut flowers. This procedure conforms to the standard procedure of the Foundation (cf. Verbruggen and Jongma 1993).

The procedure for the award of a label takes place in two successive rounds. In the first round, a group of functionally related products is defined in this case cut flowers, and a set of environmental criteria is formulated that has to be met by products eligible for a label. For each product group, different sets of criteria are formulated, as each group has its own environmental characteristics. This set of criteria is based on a 'practical' life-cycle analysis, taking all relevant product stages into account. This implies for the Dutch scheme that five separate product stages are scrutinised on eight categories of environmental considerations. The five product stages are raw materials extraction, production of intermediates, product manufacturing, product use and removal. The eight categories of environmental considerations include: resource use, energy use, emissions, nuisance, waste, re-usability, reparability and lifespan. On the basis of sub-contracted research, the panel of experts of the Foundation formulates the set of criteria, which are in turn discussed in a public hearing. Ultimately, the panel decides on the criteria.

In the second round, individual producers and importers may apply for an eco-label for their product, which is awarded if that product meets the relevant criteria set by the Foundation. The producer or importer will be informed if the product does not meet all the criteria, so that steps may be taken to improve upon some environmental aspects of the product, after which another request for certification may be submitted. Under the Dutch scheme, the eco-label is awarded for a limited period between two and five years. If during that period a shift to cleaner products takes place, the label loses its significance and can be withdrawn. Or, alternatively, if still cleaner products become feasible in time, the label awarding scheme, ie the criteria, has to be reviewed.

At the moment of writing the procedure is still in its first phase. Research is being carried out and consultations with the sector are in progress. Although the specific criteria have not yet been formulated, it is likely that they will include use of fertilisers, pesticides and fossils. It is also not known how products of foreign competitors will be treated, but according to the general

principles of the scheme, foreign producers will in principle be eligible for the label. But given the 'cradle-to-grave' approach of the scheme and the worsening competitive situation of the cut flower sector it is not unlikely that fossil fuel use in international transport will be included as a criterion.

Discussion

Eco-labels which are based on some sort of life-cycle analysis do take PPMs into account. If these process and production methods are carried out abroad, eco-labels can be said to have an extra-territorial impact. This does not imply, however, that they are necessarily at odds with the international trading rules. A ruling of a dispute settlement panel of GATT on a particular eco-labelling case may clarify this point. In the famous Tuna-Dolphin case, the dispute settlement panel was, among others things, requested to examine whether a US label for 'dolphin-safe' tuna products was consistent with the GATT rules. The complainant, Mexico, considered the labelling scheme discriminatory and non-consistent with GATT as it would only be granted to tuna harvested in a manner approved by US legislation. The panel, however, ruled otherwise. Although the panel ruled in favour of Mexico concerning import restrictions on tuna, it did not concerning the labelling issue. The argument of the panel was chiefly that a 'Dolphin Safe' label as such does not restrict the sale of tuna products. Any advantages of the label would depend on the free choice of consumers, and the GATT panel clearly could not object to consumers having such a free choice. The panel did, however, examine whether the right of access to the label was of a non-discriminatory nature. In the Tuna-Dolphin case it was decided that it was.

For the WTO, the central question concerning eco-labels therefore is: is the right of access to the label non-discriminatory? Is the label equally accessible for foreign and domestic producers? In the case of the Dutch eco-labels for cut flowers we would also like to examine two other questions: the first is does the label signal the 'right' environmental information? That is, do labelled cut flowers always have less negative environmental impacts than non-labelled flowers. The second question is does the eco-label have an incentive effect on producers?

Right to access. In principle, all products that are available on the Dutch market are eligible for the Dutch labelling scheme, whether they are domestically produced or imported. This, however, does not mean that the domestic and foreign producers are treated equally in practice. The panel is composed of environmental experts from various interest groups, including producers, consumers, trade (wholesale and retail trade, importers) and environmental organisation and the Government of the Netherlands. Foreign producers are not directly represented in the panel of experts that decides upon the criteria, and hence their export interests are not explicitly taken into account. Only through trade representatives their voice may be heard.

The costs and experience involved in maintaining environmental accounting systems and other monitoring requirements could well be prohibitive for foreign growers who do not have experience in performing these tasks.

A problematic issue in the eco-labelling system for cut flowers is the critera of energy use in international transport, which both Dutch eco-labels are likely to include. Energy use in international transport is directly related to the geographical distance between the country of origin and the consumer market. The mode of transport and its energy intensity cannot be influenced by the cut flower producers. Inclusion of this criterion would therefore discriminate between countries of origin and would automatically put domestic producers at an advantage.

The extent of this discrimination will also depend on the weight of the criterion. It would be difficult to deny protectionist tendencies if the weights were such that cut flowers produced at more than, say, 1000km from the Netherlands could never be eligible for a label. It has indeed been argued that protectionist objectives are the main reason for including this criterion. It stands to reason that developing country exporters of cut flowers would compare favourably with Dutch producers if the only criterion would be fossil energy use in production. Developing country producers benefit from an inexhaustible energy supply: the sun. There are, of course, strong pressures from within the industry to disallow developing countries a new comparative environmental advantage on the Dutch market through an eco-labelling scheme.

That inclusion of energy use in international transport would effectively cancel out any such advantages is revealed in a study by the Dutch Institute of Agricultural Economics (LEI) on the energy intensity of domestic and imported greenhouse products. This study shows, for example, that it makes no difference in energy use whether roses are grown domestically in greenhouses or imported and transported by air from Colombia or Morocco. Both roses show the same energy content of about six to seven Guilder cents. Moreover, it is argued, energy use in international air transport is free of excise duties and taxes.

The suggestion of protectionist motives is further strengthened by the fact that national transport (neither through its energy use nor through any other negative environmental impact) has never figured as a criterion, perhaps because it was rightly perceived as something beyond the influence of the cut flower industry.

Hence, the inclusion of energy use in international transport in Dutch eco-labelling schemes for cut flowers seems to be rather ad hoc and, therefore, not always beyond suspicion of protectionist purpose. Inclusion would discriminate between countries of origin and would automatically put domestic producers at an advantage because the only relevant factor explaining energy use in international transport is geographical distance.

Right environmental information. Does the information contained in the two eco-labelling schemes contain the 'right' environmental information? Can consumers rely on the implicit information of the eco-label? There are serious difficulties in comparing the environmental impacts of production processes in completely different environments. First there is the difference that what is considered serious environmental damage in the home country, may not be considered as such in another country. Perhaps other aspects of production are considered to be more important there. In short, there may be a difference in preferences. However, as advocates of eco-labelling schemes argue, eco-labels give information on environmental impacts, not on the social valuation of these impacts. Unfortunately a weighting scheme must be used for aggregation of various types of impacts and this weighting scheme is, of course, to a certain extent based on domestic preferences. The assumption underlying eco-labelling schemes is that consumers are satisfied with the same weights for environmental problems no matter where these problems occur, ie at home or abroad. This assumption has never been tested.

More importantly the indicators that are used in eco-labelling schemes (eg, pollutant emissions, energy use, waste production) may not give rise to the same environmental problems in different environments. Certain indicators which may be very relevant in one environment may be totally irrelevant in another. In the eco-labelling schemes for cut flowers, the indicator 'fertiliser use' points to a serious environmental problem in the Netherlands: ground and surface waters, and the biological life they support, are seriously threatened by an excessive load of nutrients. Any reduction in fertiliser use would therefore entail benefits to the environment. However, in a

different environment where overall nutrient levels are well below critical thresholds, any additional use of fertiliser may very well have no discernible impact on environmental quality whatsoever. In those circumstances, the indicator 'fertiliser use' would not point to any environmental problem at all. As yet, we are not convinced that eco-labelling schemes adequately account for these physical differences between countries, and therefore, their information is not only inadequate but could be misleading. Uniform criteria would contradict the Rio principle of common but differentiated responsibilities.

Incentive effect. A stated objective of the Dutch eco-labels for cut flowers is that they have an incentive effect on producers. The possible price differential between cut flowers with eco-labels and cut flowers without such a label, should act as an incentive for producers to improve their environmental performance in order to successfully apply for the label. Two observations can be made on this issue. The schemes depart from relatively high environmental standards, because these schemes cater for the growing environmental awareness of consumers and for a clear innovative effect. For that reason, only a limited number of products within a product group are awarded a label. However, this certification of only the most environmentally-sound products on the basis of a yes-no decision seems less attractive for producers in developing countries. It is probably more in their interest to apply certification schemes based on a continuous scale, as, for example, the points system with three environmental classes of the FAH. Clear advantages are a lower barrier to enter the labelling scheme, a higher participation rate and an incentive to move up to higher environmental classes. Such a system does not pursue selection and exclusion, but instead participation and stimulation. This better serves the interests of developing countries, and perhaps better facilitates a system of mutual recognition of eco-labels.

The criterion of energy use in environmental transport provides absolutely no incentive, either for domestic or for foreign producers. Dutch producers of cut flowers do not need international transport to supply the Dutch market, so they cannot economise on it. Foreign producers who are dependent on international transport to access the Dutch market, cannot control it.

The impact of eco-labels on the exports of developing countries

The proliferation of eco-labelling schemes in the horticultural sector in the Netherlands can serve the sector's own objective of improving its competitive position through an improved environmental and quality image. The labelling schemes are wholly or partly based on the concept of life-cycle analysis or integrated chain management. This poses two problems for exporters from developing countries. First, all eco-labelling schemes in the horticultural sector emanate from relatively high environmental standards that are derived from the specific environmental and economic circumstances in the Netherlands, ie, relatively capital and technology-intensive cultivation methods which make intensive use of energy, artificial fertilisers and pesticides and take place in densely populated areas with a relatively high firm density. Implicitly, eco-labelling schemes place these circumstances and the derived environmental standards upon foreign producers, without taking into account the environmental circumstances and preferences in exporting countries. This may lead to trade distortions, as different environmental and climate conditions across countries create country specific comparative advantages in production and trade.

Ideally, the externalities of transport should constitute an integral part of the overall assessment of the environmental impact of a product. However, the present eco-labelling schemes do not include transport as an environment aspect, neither nationally nor internationally. Besides, the

transport-related externalities of a product are very hard to establish because of varying distances and means of transport between producers, intermediate producers and consumers. Hence, the inclusion of energy use related to international transport in Dutch eco-labelling schemes for cut flowers seems to be rather ad hoc and occasional, ie, intended for special (protectionist) purposes.

Second, foreign producers are not represented in the institutions that design and implement eco-labelling schemes. This is partly due to inattention, a reluctant attitude with respect to the practical problems of monitoring and testing foreign growers, but clear protectionist sentiments are also involved. If these developments continue, imported products will be the only supply in the horticultural sector that will have no label of any kind.

It is, therefore, of paramount importance for developing countries export prospects to counteract these developments by introducing comparable eco-labelling schemes for their products. The establishment of an international system for mutual recognition of eco-labels, international consensus should be sought on a number of principles, as follows:

1. It should be recognised that each country can legitimately formulate its own eco-labelling criteria, taking into account its own environmental circumstances and preferences for environmental quality.

2. It should be sufficient for the international recognition of labels that the country specific criteria may concern local and national environmental problems only. This would boil down to a 'cradle-to-export border' approach.

3. Criteria that reflect concern about transboundary and global environmental problems should be agreed upon internationally. Of course, each country is free to include such criteria in its own labelling scheme, but they should not be forced upon other countries nor should it impede mutual recognition.

4. Environmental criteria with respect to international transport of traded products should ideally be included in a comprehensive life-cycle approach that underlie eco-labelling schemes (although this may not be possible) unless all trade flows are treated equally. This can only be realised through international agreement.

5. Most eco-labelling schemes depart from relatively high environmental standards, because these schemes cater for the growing environmental awareness of consumers in developed countries and they should exert a clear innovative effect. For that reason, only a limited number of products within a product group is awarded a label. However, this certification of only the most environmentally-sound products on the basis of a yes-no decision may be less attractive for developing countries. It is probably more in the interest of developing countries to apply certification schemes based on a continuous scale, similar for example, to the points system of three environmental classes of the FAH. Clear advantages are a lower barrier to entry the labelling scheme, a higher participation rate and an incentive to move up to higher environmental classes. Such a system does not pursue selection and exclusion, but instead participation and stimulation. This better serves the interests of developing countries, and perhaps better facilitates a system of mutual recognition of eco-labels.

Conclusions and Recommendations

A number of factors have been disentangled that affect the prospects for trade and economic growth in developing countries, in relation to North-South differences in environmental policy and in the context of a global environmental utilisation space. Potentially negative impacts of northern environmental product standards on developing country exports have been identified. A brief case study focused on the design of a Dutch eco-label for cut flowers and its potential international implications. We have suggested that eco-label criteria, derived from national environmental circumstances and preferences, may unjustly discriminate against foreign supply. Market access of developing countries may thus be limited.

The possible negative impacts on the South can be counteracted through careful design and implementation of environmental product policies in the North and through concerted development co-operation in this field.

However, in order to design an effective strategy for action in this field, extensive information is needed. Which product groups and which countries are, or will be, most affected by northern environmental product policies? To what extend will they be affected? How can trade and environment best be reconciliated in specific cases? In order to begin formulating answers to these and related questions the present research project, of which this paper is a first output, is developing a link between UNCTAD's Trade Control Measures Information System (TCMIS) and international trade statistics via the Standard International Trade Classification (SITC). The research specifically aims to:

-identify those traded product groups for which environmental standards are or will become important;

- assess the present market shares of developing countries in this trade as well as the future prospects;

- assess empirically the impact of environmental product standards on developing countries' export performance.

Developing countries should be afforded a relatively larger share of the global environmental utilisation space. Only in this way can the South create a new comparative advantage in relatively environment-intensive and environmentally-preferable goods.

This new comparative advantage should be revealed by market forces. In other words, developing countries' exports of environment-intensive and environmentally-preferable goods should be more rewarded through higher prices and/or improved market access; ie, an environmental premium. Existing trade schemes, tax systems and environmental and trade-related policies should be revised in order to make green exports from the South a better paying conduct of business. This also means that in the design of environmental policies and regulations, developing countries should explicitly be invited and consulted.

It is important that developing countries take part in such an international coordination process, so that their environmental circumstances and preferences may be taken into account in the design of product-related measures. This is especially relevant for eco-labelling schemes and recycling policies. Then, product-related measures might also create new export opportunities.
In addition, development co-operation can play an important complementary role in helping developing countries' exporters to adjust to and take advantage of the new environmental-economic conditions.

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