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Sustainable development in the flower sector with eco-labels?

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Abstract

A review of different labeling schemes in the international flower market shows that the schemes differ very much in terms of objectives and design. They can put developing countries into a disadvantaged position. Instead of safeguarding the environment, eco-labeling has been used as non-tariff trade barriers. However, labeling also resulted in major environmental and social improvements in all flower growing countries. The adaption process especially of developing countries need to be assisted by technical advise and financial support. The active participation of developing countries in the design of the labeling schemes, including choice of products and selection of criteria, which also reflect the environment in the developing country is essential. After initial problems of implementation are overcome, the objectives of sustaining development and safeguarding the environment can be achieved.

Keywords: Eco-labeling; Flower trade; Labor standards; Environmental standards; World Trade Organization

1 Introduction

Trade in cut flowers has become a major field of exports for countries like Colombia or Ecuador. Columbia is the second biggest flower exporter behind the Netherlands and for Ecuador, fresh flowers have advanced to the fifth largest agricultural export product. Many other developing countries like India, Thailand, Kenya, Tanzania and Zimbabwe have started to enter the flower markets with their exports. However, the social and environmental aspects of intense flower cultivation are often neglected, especially in the developing countries.

Campaigns from environmental groups and human rights organizations and environmental non-governmental organizations (NGO) have led to a significant loss of prestige of flower producers in developing countries. But also the flower growers in developed countries like in the Netherlands lost image due to press releases on major environmental problems in flower cultivated areas. The resulting loss of sales in these countries and the lack of market access of developing countries led to the proposal for various eco-labeling programs as a means to raise environmental and social standards in developing countries.

The question arises whether labeling can improve the sustainability of the production of flowers, and to what extent it becomes a barrier in trade. A number of different labeling schemes have been launched world-wide in the flower market in the nineties. This paper reviews the different schemes with respect to their impact on trade and their effectiveness and ability to improve environmental and social conditions. The following chapter briefly describes the situation of the world market for flowers. Chapter 3 defines and outlines the general concept of eco-labeling and gives an overview of existing programs in the flower

sector. Chapter 4 analyzes the impacts of flower labels on the environment and on trade, and chapter 5 summarizes.

2 World Market for Fresh Flowers

2.1 World supply and environmental and social issues

The Netherlands is the world's largest producer and exporter of fresh cut flowers with a world market share of 59 %, followed by Colombia which accounts for about 11 percent of the world export market. Other important producers and exporters of cut flowers include Costa Rica, Ecuador, India, Israel, Kenya, Thailand or Zimbabwe (FAS, 1996a).

In the Netherlands, almost 60 % of the cut flowers are produced in glass greenhouses. In Colombia, most production is also in greenhouses, but out of wooden frames and plastic sheeting, mainly located in the outskirts of Bogota. Cut flowers are Colombia's, Ecuador's and also Costa Rica's third most important agricultural export crop, after coffee and bananas with the United States being the major export market for these countries. Flowers from Kenya, Zimbabwe or Tanzania are mainly exported to the Netherlands.

In Ecuador, the flower sector offers employment for about 25,000 people (Greiner, 1998). In Colombia, it is estimated that 75,000 direct and 50,000 more indirect jobs are provided (FAS, 1996a). In Kenya, over 30,000 employees existed in the mid-nineties in the flower sector, while Zimbabwe counted about 10,000 people (Maharaj and Dorren, 1995). Despite high employment rates in the blooming flower business, poverty is wide-spread. Many workers earn wages mostly too low to achieve a satisfactory standard of living; they are exploited and work overtime.

The main environmental problems are related to the use of water and pesticides. The need for water is very high; in Colombia, one hectare of chrysanthemums uses 150.000 litres of water per week. Unsustainable cultivation led to sinking ground water levels and dry rivers so that the supply of drinking water is no longer guaranteed in some areas like Sabana de Bogotá. Similar water supply problems have been reported from Kenya (Maharaj and Dorren, 1995). Pesticides are used in extreme amounts. According to Asocolflores—the association of Colombia's principal flower exporters—about 200 kg per hectare and year are sprayed on flowers. This is double the amount used in Holland (Braßel and Windfuhr, 1995). The intensive use is to a great extent related to the consumer preferences for high quality products and regulations in export markets. Japan and the United States e.g. maintain extremely high phytosanitary requirements. Until 1995, dangerous and in other countries prohibited substances like Captan were in use in Colombia. In Ecuador, up to 36 different pesticides had been counted in use within three days (Jacobasch, 1998). It has become known in 1995 that about half of the women working in the flower production showed symptoms of poisoning from pesticides. Laws to control or regulate the use of pesticides and to protect workers are in place, but little enforced. Also the flower producers in developed countries, especially the Netherlands, lost image due to press releases on major environmental problems in flower cultivated areas.

2.2 World demand

The expenditure for fresh cut flowers world-wide amounts to about DM 60 billion per year with 42 % being spent in Western Europe, 20 % in the United States, 18 % in Japan and 20 %

in other countries (Table 1). Within Western Europe, Germany is the biggest consumer of cut flowers with a share of 32 %, compared to 20 % in Italy, 12 % in France, 8 % in Great Britain and only 4 % each in the Netherlands, Spain and Switzerland. Germany is the world's largest and most significant import market for floricultural products with annual sales estimated at about DM 8 billion; it is also a significant producer, covering about 10 % of domestic demand. The Netherlands dominate the German import market with an average share of nearly 75 %. The remaining 25 % imports mainly come from Kenya (20 %), Israel (21 %), Colombia (15 %) and Ecuador (11 %) (Statistisches Bundesamt, 1999; BGI, 1999).

Table 1: World demand for fresh cut flowers

	Expenditure (in billion DM)	Inhabitants (in million)
United States	12	246
Japan	11	122
Western Europe	25	380
Of which		
Germany	8	
Italy	5	
France	3	
Others	12	

Source: BGI, 1999.

2.3 Trends in the flower market

The international flower market is characterized by the following trends:

- The international flower market is relatively saturated. Expansion of exports is mainly directed towards the East European market. Global competition is steadily rising with increasing exports from different developing countries.
- The production costs, especially energy costs, for flowers in glass greenhouses are relatively high and only possible in Europe due to subsidies. Favourable climatic conditions in most developing countries allow for the production of flowers at relatively low prices. The comparative advantage of flower production in the South is expected to result in diverting trade streams with the Netherlands loosing its dominant position in the flower market (Jacobasch, 1998).
- A loss of image of flowers due to environmental degradation or exploitation of workers on flower plantations has occurred. Campaigns from human rights organizations like the First Food Information and Action Network (FIAN, 1999) and environmental NGOs raised the consciousness of the consumers about the environmental and social problems caused by intensive flower production.
- As flowers are typically bought as gifts and therefore can be easily substituted by other gifts, a need is seen, especially by importers, to improve the image of flowers through labeling schemes to primarily sustain the importance of the flower market. The willingness of the consumers to pay higher prices for labeled products, however, is considered as being relatively low.

3 Labeling in the Flower Sector

3.1 Definition and concept

"Eco-labeling" defined as a practice of providing information to consumers about a product and its production method which is characterized by improved environmental performance

and efficiency compared with similar products, has gained increasing popularity in recent years. It is a voluntary and market-driven approach to achieve environmental and social goals. While the first eco-labeling programs in the flower sector developed in the Netherlands only contained environmental criteria, the recent schemes also include social criteria to secure improved working conditions on the flower plantations in developing countries.

The award process for labeling schemes basically consists of two phases: First, product categories and criteria for awarding the label need to be identified. This often includes the organization of expert hearings and the subsequent publication of the results. The criteria are formulated on the basis of a practical life-cycle analysis, taking into account separate product stages and categories of environmental aspects. The categories of environmental aspects may refer to resource use like energy, water, emissions, waste, and life span. The criteria used in eco-labeling programs differ considerably in terms of stringency and coverage (WTO-CTE, July 1997). The identification and monitoring of criteria is a difficult process. This is not only due to diverging interests of industry, consumer groups and the labeling boards, but also because of the difficulty in determining appropriate, enforcable criteria for the products which are supposed to achieve environmental goals. Very often, standards tend to be geared towards criteria that are technically feasible, rather than preserving the environment (Smith and Potter, 1996).

In a second phase, producers apply for the label. After examination whether the producer fulfills the criteria, a contract is concluded that entitles the producer to use the eco-label for a certain product and for a specific time period. Often, labels are awarded for 2 to 5 years. Criteria are reexamined after a certain time period to allow for adjustment of technology to new developments. If a shift to cleaner production takes place during this time period, the label can be withdrawn or new criteria can be set. Generally, eco-labeling criteria should be set, so that they also reflect the environment in the foreign country, and so that only a small percentage (5-30 %) of products within a category can obtain the label (OECD, 1997). The producer eligible to use the label, pays normally a flat fee upon contract signing. Additional annual contribution is levied, depending on the annual turnover of the company. Monitoring includes a regular inspection of the producers of at least 2 to 3 times per year, normally by an independent auditor. Further, informal control over the system comes from the scrutiny undertaken by competitors and consumer associations.

3.2 Overview of existing programs

In the flower sector, there was a proliferation of labeling programs in the nineties. In the Netherlands, the Stichting Milieukeur has developed environmental criteria for labeling agricultural products including flowers, potatoes, fruit and vegetables to pork and plants with the **MILIEUKEUR LABEL (MPS)** since 1995. The criteria of these products ensure that they are considerably less damaging to the environment than traditional products. For the cultivation of MPS flowers only limited and selected use of chemicals and artificial fertilizers are permitted. Demands have been also set for the use of energy and for waste disposal (Verbruggen et al., 1997). After initial difficulties, the MPS label has been also obtained from suppliers from Zimbabwe, Kenya, Tanzania and Israel. Since the opening of the scheme to developing countries, a need was seen to include social and energy efficiency criteria in the program. The energy component related to international transport from developing countries to Europe or the Netherlands is taken into account to compensate for the energy use in greenhouse production in the Netherlands. Thus, domestic and foreign flowers meet energy efficiency criteria on a comparable level.

Two further programs of minor importance were launched in the Netherlands already in 1993. To improve its image and position in the national and international flower market, **FLOWER AUCTION HOLLAND (FAH)**, one of the two largest Dutch auctions, introduced the FAH eco-labeling scheme in 1993. Its classification system provides information on the environmental behaviour of firms and on environmental effects of production processes. A company which is registered for the labeling program obtains points for its environmental performance with respect to crop protection remedies, fertilizers, energy use, and waste. The higher the number of points the higher the auction price. While the company is obliged to provide reliable data on a regular basis to FAH, the auction is entitled to check on the reliability of the data with the help of auditors and through inspections of the companies (Verbruggen et al., 1997). This program has gained only minor importance in the flower market since its introduction in 1993. Developing countries do not participate in the program. The **FLOWER AUCTION AALSMEER (FAA)**, a cooperative of about 5,000 flower growers, is the largest flower auction site in the world. Reportedly, flower products are shipped to Aalsmeer from some of the world's largest flower producers for assessment by the auction's 2,500 buyers (FAS, 1996a). In 1993, FAA has introduced an eco-label for organically cultivated flowers, based on the use of no artificial fertilizers and pesticides and following natural growing seasons. The label is issued by the foundation for organic cultivation (SKAL). Flowers that meet both the SKAL and FAA quality standards are awarded the GEA-label. These products achieve a 30 % higher price compared with non-labeled flowers (Verbruggen et al., 1997), however, the program is also only of minor importance with about 20 domestic enterprises participating.

The **FLORVERDE** program is an initiative of Asocolflores, the Colombian Flower Growers Association, with about 240 members or 90 % of all Colombian flower producers, to counter the bad reputation that campaigns left behind with respect to flowers from Colombia (WTO, 1998). The Florverde program aims primarily at the protection of the environment like reducing the use of chemicals, water and energy, improving waste management, or reducing the visual impact of plastic greenhouses on the landscape. It encourages proper training of workers, environmental research projects, agreements on clean production, and the application of the Environmental Conduct and Social Welfare Code which is voluntary and self-regulatory including practical and legal recommendations on sustainable development and social well-being. The Florverde program is based on the principle of self-management without any external auditing process aiming at gradual but continuous progress. Currently, there are 130 companies participating in the program covering about 50 % of the total plantation area (Asocolflores, 1999).

In 1998, the **FLOWER LABEL PROGRAM (FLP)** has been introduced to promote socially viable and environmentally friendly flower production in developing countries. The domestic flower industry is interested in improving the image of flowers which has been challenged by several campaigns from human rights organizations and environmental NGOs against the environmental degradation caused by the flower industry and the poor social working conditions on flower plantations in developing countries. Producers in developing countries participate in the labeling program to primarily develop and/or sustain their sales and access to export markets. First steps towards this program were already taken in 1995 by Expoflores, the Ecuadorian Flower Growers and Exporters Association, which finally sat down with the German Flower Wholesale and Import Trade Association (BGI) and the German human rights organization FIAN to discuss appropriate social and environmental criteria. The completed program demands compliance with over 60 social and environmental criteria with respect to the pesticide and fertilizer use, health and safety measures and general working conditions (Greiner, 1998). The first flowers under this label have been imported from Ecuador to

Germany. So far, 35 producers in Ecuador agreed to participate in the eco-labeling program. Other suppliers are from Kenya, Zimbabwe and Tanzania. Currently, 10 enterprises from Kenya and Zimbabwe, and another 2 from Tanzania are consulted and prepared for certification by Protrade of the German Agency for Technical Cooperation (GTZ). Sri Lanka and Israel are further potential participants. The certification and monitoring is conducted by a neutral German expert team, the Agrar Control GmbH. The monitoring costs of around 3-10,000 DM, depending on the size of the enterprise, are covered by the producers. The label basically ensures market access but does not allow any price premiums for labeled flowers.

The **KENYA FLOWER COUNCIL** which consists of producers in Kenya, introduced a Code of Conduct and a label for their flower production. The Code of Conduct includes environmental and social criteria.

Also the **MAX HAVELAAR FOUNDATION** in Switzerland is designing its own label for flower. The general fairtrade conditions include that flowers are purchased directly from small farmer organizations or from plantations. The price being paid is in principle slightely higher. To guarantee the farmers a minimum of social security, a minimum price has been established. In addition, producers and importers will have to provide mutual security in supply and purchase aiming for long-term trading relationships. For plantations, some labour and environmental criteria have been developed like freedom of trade union membership, anti-discrimination and equal pay, no forced labour or child labour, mimimum social conditions, or safe and healthy working conditions. The environmental criteria comprise of protection of wooded and wildlife areas, prevention of water pollution documentation, checking and reduction of pesticide usage documentation, checking and reduction of artificial fertilizers checking, and reduction and composting of waste (Max Havelaar, 1999).

There has been a further initiative from **C.O.L.E.A.C.P.**, an organization which mediates between exporters from Africa, the Carribean and the Pacific and importers of the EU. They brought together the four African countries Tanzania, Uganda, Zambia and Zimbabwe for cooperating further towards cleaner production and socially acceptable standards in the flower market.

Finally, **'UNION FLEUR'** the international association of the national flower associations initiated first steps towards uniting different label-programs. End of July 1999, the representatives of different labeling programs (MPS, FLP and Kenya Flower Council) from developed and developing countries including Columbia, Kenya but also France or Germany met for the first time to start the discussion on the harmonization of criteria and setting minimum standards. The proposed international code of conduct aims at some harmonized minimum standards and has been developed in cooperation between human rights' NGOs, religious groups, trade unions and national flower associations from Germany, Great Britain, the Netherlands, Sweden and Switzerland. Diverse difficulties have been encountered like setting minimum wages or with respect to criteria depending on regional conditions. In some countries like in France, the national association of flower producers and traders is less developed and therefore, does not include most producers who would have to meet and agree on the minimum standards.

4 Impacts of flower labels on environmental and social conditions and on trade

According to the WTO Committee on Trade and Environment (CTE), well-designed eco-labeling programs which are covered by the Technical Barriers to Trade (TBT) Agreement can be effective instruments of environmental policy. However, it acknowledges that in

certain cases, significant concerns about their possible trade and environmental effects need to be raised. In 1998, Colombia submitted a paper to the CTE (WTO, 1998), raising concerns with respect to the impacts of eco-labels on the Colombian flower market. Colombia stated that eco-labeling had negatively affected its exports. Major criticism referred to

- the lack of transparency of labeling schemes hampering participation of developing countries not being consistent with WTO disciplines on transparency;
- their discriminate use as the eco-labeling scheme developed by German importers was, at that time, only aimed at Colombia; this is considered as not consistent with WTO disciplines on nondiscrimination;
- the compliance with the criteria is very costly, by far exceeding their benefits;
- the suggested labeling scheme was coercive and not voluntary, as anyone who did not accept the scheme was subject to negative pressure from the flower campaign;
- verifying compliance with Colombian environmental regulations is considered as being a task within the exclusive competence of the National Government, and not of a foreign expert team.

Following these arguments, there is strong resistance of the Colombian government to participate in any labeling initiatives. As a result, the country is facing difficulties in market access and thus developed its own Florverde program.

Similar problems with labeling, putting imported flowers in a disadvantaged position in the European market, have been identified with respect to other labeling programs: Foreign companies need a reliable environmental accounting and monitoring system which can be very costly, and problems of monitoring and checking on data reliability in the foreign country exist. Due to the high cost of conformance with the selected eco-labeling criteria and the certification process, technical and financial assistance for developing countries is needed.

A positive example is given by the FLP scheme which includes that producers in developing countries are consulted and prepared for certification by Protrade, GTZ. There is also evidence that major environmental and social improvements in the companies from the countries that participated in the labeling scheme have been achieved. In Zimbabwe, women workers are entitled to take paid pregnancy leave for three months. A program for subsidizing food and the establishment of vegetable gardens for securing the right for food for the workers has been initiated. In Kenya, time limits for entering the greenhouses after the use of pesticides have been introduced to avoid any health hazards to workers. In Ecuador, the majority of workers have now long-term contracts, and the workers are provided with protection clothes (Braßel, 1999). In addition, it has been found that not only environmental and social costs are partly internalized by labels, but even cost-saving effects based on more efficient production processes and more interested and productive workers can be realized (Verbruggen et al., 1997).

The eco-labeling schemes in the Netherlands primarily serve the sector's own objective of improving its competitive position through better environmental and quality image. Producers hope to maintain or even increase their market shares by differentiating their products from similar products from other suppliers. Labeling may give domestic producers a competitive advantage over producers in low-cost developing countries. It is basically used as a non-tariff barrier which aims at protecting the domestic market (Verbruggen et al., 1997). In all Dutch schemes, the criteria for the label are solely determined by domestic players. Foreign producers are only indirectly represented by their trading partners. This implies that the environmental criteria will be applied to foreign products and production methods, without taking into account the environmental conditions and priorities in the foreign countries. Setting energy efficiency criteria related to international transport, as in the MPS scheme, is

generally considered as being unfair towards foreign country products as they are loosing their comparative advantage of being grown under favourable natural conditions and not in greenhouses like Dutch products. It puts producers from distant countries into a disadvantaged position, especially since the environmental effects associated with the international transport of exported domestic products are disregarded. It is to be suspected that the use of this criteria is directed at preventing developing countries from benefitting from the Dutch label for cut flowers as it creates country-specific comparative advantages in production and trade (Verbruggen et al. 1997).

On the other hand, it also needs to be taken into consideration that Dutch traders, producers and auctions are also interested in increasing their turnover, including imports from developing countries due to the following reasons:

- to increase their sales commissions,
- to cover the costs of their trade and auction facilities,
- to offer a more attractive flower sortiment especially in the winter season to their customers,
- to sell their new varieties to producers of developing countries, and
- to avoid that trade streams are diverted, e.g. by new labeling schemes, to their final consumer countries like in the case of the FLP program to Germany.

It can be summarized that most labeling programs have not necessarily been established with the primary objective of improving the environment and social conditions of the workers. Instead, the fright of increased competition from abroad has often been a major reason. However, all labeling programs seem to have contributed to the final goal of sustainable development in the flower sector.

5 Summary

Production of cut flowers has grown to a major business in many developing countries. However, the environmental and social aspects of intense flower cultivation are often neglected. As a result, there is a proliferation of different eco-labeling programs in the last decade. The popularity of eco-labeling products is primarily based on its voluntary nature and market-driven approach to achieve environmental goals. According to the WTO Committee on Trade and Environment (CTE), well-designed eco-labeling programs can be effective instruments of environmental policy. However, it acknowledges that in certain cases, significant concerns about their possible trade and environmental effects need to be raised. Developing countries complain about having lost access for their flower exports to European markets. Instead of safeguarding the environment, eco-labeling has been used as non-tariff trade barriers. Therefore, eco-labeling is debated controversial in the CTE, and the question arises whether eco-labeling can improve the sustainability of the production of flower products.

Evaluating the impacts of eco-labeling schemes is a complex task and research is only in its initial stage. However, a review of the different eco-labeling schemes in the Netherlands shows that the design of the schemes puts developing countries into disadvantage and initially even excluded them from participation. Also Colombia's experience in the flower sector highlighted that eco-labels can have adverse market access impacts. The impacts depend on many factors like the choice of products and the selection of criteria, the monitoring process and the compliance costs to meet the requested standards.

However, it has also been found that labeling resulted in major environmental and social improvements in all flower growing countries. Negative experiences of one country like Colombia can have positive learn effects for other countries like Ecuador which adapted to increasing costs and different local conditions relating to eco-labeling in importing countries similar to those set out by Colombia. The adaption process of developing countries need to be assisted by technical advise and financial support. After the initial problems of implementing a labeling program are overcome, the objectives of sustaining development and safeguarding the environment can be achieved.

To avoid that labeling programs become a trade barrier, some rules have to be followed: Foreign producers should be represented in the panels that design and implement eco-labeling scheme. This includes the program design, choice of product coverage, selection of criteria, and audit procedures. The criteria e.g. have to reflect the environmental and social conditions in the developing countries. As Markandya (1997) points out "...although each country has the right to establish eco-labelling criteria that reflect its environmental concerns, it should not impose those on other countries. Only those aspects of the criteria that are relevant to the importing country's environment or to the global environment should be applied to the imported product." Mutual recognition of certain procedures and the principle of equivalency are essential for the successful implementation of a labeling scheme.

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