

Eco-labelling Applications in the Textile & Apparel Sector in Turkey

Abstract

Eco-labelling application is an important feature for those textile and apparel firms which place importance on the environment and health. Nowadays the usage of an eco-label has become a necessity for firms due to customers' demands. In this paper we will examine the structures concerning eco-labels in EU countries that Turkey is aiming to integrate, which involving important studies and regulations; we will also give information on similar studies carried out in Turkey.

Key words: eco-label, textile and apparel, ecological label, global competition, turkish textile sector.

Introduction

The increase in global competition is persuading the business administrations to apply customer-centralised strategies and policies, while inducing countries to prepare new legal regulations in order to protect both their consumers and their local markets. A great majority of these important regulations involve the production process, the technologies used and the input features. One of these features is the eco-labelling application, which is rapidly becoming widespread and more important in relation to the economic environment.

The textile and apparel industry is facing new difficulties in the face of the globalisation of the world economy and the competition of the rapidly growing Asian markets. The companies are trying to distinguish themselves by devising valuable textile and apparel in order to survive in this market. In a world which is becoming more and more conscious about health and environment, any product which proves to be more environment- and health-friendly will help the companies to gain more importance in the customers' opinion [8].

The eco-label is a very important tool that should be considered as part of the enterprises' social responsibility. Consumer research carried out in recent

years has shown that consumers are not content with demanding good and reliable products, but also expect the companies to conform to certain norms of social behaviour. It is true that consumer behaviour in Europe has been affected by the contributions and investments made by the companies to the environment, the community and by their social activities. In the same manner, multinational companies are not limited to their local operations, but the respect they show to the environment during their activities in developing or underdeveloped countries is one of the criteria the consumer keeps in mind.

We understand that in practice the eco-label is either a market-based and voluntary application or is forced upon the company by the market, rather than being a strictly legal arrangement [1]. It is a

logo showing all the effects of the product on the environment, together with its composition, and which is added to the European eco-label which evaluates the environmental performances of certain products within the scope of certain social development projects. The application of the eco-label is optional, and this logo is only an indication of the respect shown to environmental ecology [2].

We see that the textile and apparel industry, which is Turkey's principal production and export sector, is well advanced in eco-label application, thus fulfilling its social responsibilities as well as gaining important advantages in global competition.

The eco-labels developed in the EU market for the environmental concept and the textile products

Since the beginning of the 1980s the importance of the environmental concept has grown, involving both producers and the consumers, and almost all industrialised countries have made laws for the environment which are now in force. The growing sensitivity to the environment in the EU countries is affecting the international export products and the exporters. As a result of that, production practices which are safe for the environment and human health have gained importance. Accordingly, alongside the various regulations in the EU, environmental labels are being developed which will be valid either nationally or in all the EU countries.

The environmental label or the eco-label (Figure 1) is a tool showing the consumer the environmental quality of the product. It answers the consumer's need to obtain information about the environmental features of the product [3]. As described by the



Figure 1. The environmental label (eco-label) [5].

International Standardisation Organisation: 'The environmental label (eco-label), shown in Figure 1 is a label assigned to products of which the environmental effects are evaluated according to the criteria determined by a third party, and which is optional.' [4]

The eco-label is an 'ecological label' showing that adverse environmental effects are minimised during the design, installation, usage and disposal stages of a product [6]. It guarantees to the consumer that the product in question is environmentally reliable, it has been produced with environment-friendly materials and does not contain chemicals hazardous for the consumer [7]. Similar labels are used in various countries, for instance in Germany there is the 'Blue Angel', in Northern Europe the 'White Swan', in Korea the 'Eco-mark' and in Singapore the 'Green Label' [6].

The producers who export to the EU market are not subject to eco-label criteria. However, they conform to these criteria in order to take advantage of the opportunities arising from the trends towards green consumption in the EU countries by creating an image which is sensitive to the environment and human health, and thus they distinguish themselves by frequently making use of the eco-labels as a marketing tool [3].

The objective of the eco-label application can be described as follows:

- to encourage the design, production, marketing and usage of the products with minimised environmental effects during its life-span, and
- to acquaint the consumer with the environmental effects of the products that they use (this is not required for food, beverages or medicine) [2].

Germany is the principal country in the EU as regards popular interest in environ-

mental sensitivity, where the mail order companies have the majority stake in the environmental textile and apparel market.

Although the interest in environmentally-sensitive products is increasing, and consequently the related market is growing by 15-60% annually, it is of little importance within the entire textile and apparel market.

Other ecological textile labels in the EU countries

The EU countries have developed an EU eco-label valid all over the Union, thus creating an environmental labelling system in accordance with Regulation No. 880 dated 23 March 1992 from the EU Council. This system involves the awarding of the environment-friendly products with an environmental label. Bed-sheets and T-shirts are included in the product groups to be awarded. According to the EU environmental labelling system, obtaining an environmental label is an optional and voluntary procedure. Since the EU Ecological Labelling Program has failed to take effect, most European countries have created their own criteria for a similar program. Unlike the ecological label (eco-label) of the EU, these national symbols are not always familiar in other member countries, except for the 'Swan' which is valid in Sweden, Norway and Denmark, and the 'SKAL' label in Netherlands and Germany. The programs for ecological symbols prepared by individual countries according to their own criteria are given here below in brief [4], whereas some of the labels itself are shown in Figure 2.

Ecological labels used in the Netherlands

Milieukeur label

As the interest in the environmental concept is rising in the Netherlands, a voluntary environmental labelling sys-

tem has been developed as of 1992. This labelling program is being carried out by 'the Stichting Milieukeur', which is an independent organisation composed of members of the government, consumers, environmentalist groups, producers and retailers [4].

The criteria of Milieukeur labels are concerned principally with the finishing, dyeing and sizing of the textile. Some of the criteria involve particles dispersed in the air and water during the production processes. The use of chloride containing chemicals is not allowed in the bleaching process, and the amount of heavy metals existing in the final product are limited, as are the uses of some chemicals, dyes and formaldehyde [10].

The Skal label

SKAL is an organisation supervising organic production methods, and it is vested with authority by the governments of Germany and the Netherlands according to EU Regulation No. 2092/91. It conducts supervisions and grants national & international certificates. The companies supervised by SKAL are entitled to use the ECO quality label after they receive the product certificate. The signs of the 'ECO Quality Symbol' granted by SKAL show that after an objective inspection, the product in question has been found to be produced by organic production methods. Thus SKAL has the right to grant the 'ECO Quality Symbol' showing that the product is conforming to standards of organic production methods [10]. The observation system of SKAL not only stipulates the production of natural fibres according to the standards concerning organic production, but also includes the environmental criteria about all the production stages and the packaging process of the final product [4]. The ECO Quality Symbol added on the product package guarantees the consumer that it is produced by natural and environment-friendly methods [10].

Figure 2. Other ecological textile labels in the EC countries [9].

Millieukeur	Blue Angel	NF-Environnement" Etiketi	Nordik Ekolojik	The Falcon
				

The ecological labels used in Germany

The Blue Angel label

The Blue Angel is the principal label in Germany, and its objective is to guide the consumers in purchasing good quality products while encouraging the producers to environment-sensitive production [2]. The Blue Angel enables the industry to certify its environmental adequacy in a simple and inexpensive way. The companies which use this label have a chance to increase their marketing potential for their products and services to a considerable extent. Furthermore, this label helps the consumers for their purchasing preferences [11].

SG Label (Schadstoffgeprüft-Zeichen)

The SG label is granted to products subject to the testing of hazardous materials. It guarantees the customer that the amount of hazardous materials used during the production is at the minimum level. The limit values are determined for leather, textile, paper, wood, cork, plastic and adhesive products, and those containing hazardous materials below the determined limit values are entitled to a SG label.

The ecological labels used in France

In France the 'NF Environnement' label was introduced in 1992 by AFNOR (Association Française de Normalisation), the national standardisation organisation of this country. This label is optional, also, as it is in other countries.

The ecological labels used in Sweden

The Falcon label

The product groups falling within the scope of this label also include textile products. The products conforming to the related criteria bear a sign on which 'BRA Miljöval' is written (a good choice in view of the environment). Moreover, the products entitled to this label are published in the Shopping Guide by the Swedish Association for the Protection of Nature [10].

The Krav label

The KRAV (The Swedish Association of Organic Farming) grants a label bearing its own name to textile products containing organic fibres. To obtain the KRAV label, conformity to criteria similar to the ECO label is required.

The ecological labels used in northern European countries

The 'Nordic Swan' ecological label which is valid in Sweden, Norway, Fin-

land and Iceland are granted to products which pollute the environment to a minimal degree, similar to the 'Milieukeur' label of Netherlands. The textile and apparel products are included in the product groups covered by the SWAN label (Nordic Ecological Label). These products are baby clothes, clothes, outer clothing, curtains, fabrics and bed-sheets [10].

How to obtain an eco-label

This label is also used in the evaluations made for the European Environment Awards, which take place every two years and which is one of the various methods applied by EU countries in order to encourage European industry to develop efficient environmental policies [12]. The ECO-label is obtained at the end of fourteen stages, as clearly defined in Figure 3.

In the first stage, the factory administration notices the importance of the eco-label and decides to use it. At the performance control stage, the chemicals not allowed by the selected eco-labelling organisation are enlisted. Detailed monitoring of the chemicals is necessary at each stage of production. The hazardous chemicals and their alternatives are given in Table 1.

In some cases, it may be necessary to use more expensive chemicals and dyes, although as the use of smaller amounts of high-quality products may be sufficient, it may be possible to decrease the total cost. Costs can also be decreased by changing the production techniques. Optimisation can be achieved by controlling all the recipes and procedures, and finding the spots where excessive material is used. The quality control system is an impor-

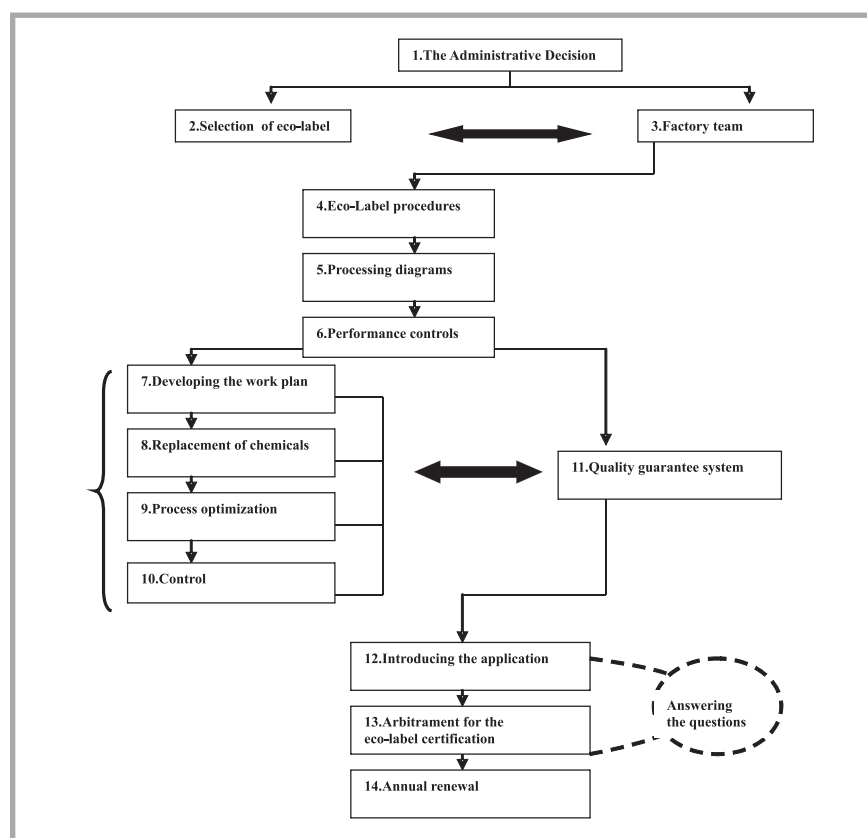


Figure 3. The stages of obtaining an eco-label.

Table 1. Some hazardous chemicals and their replacements.

The hazardous chemical	The alternative
Sodium hypochloride	Hydrogen peroxide
Prohibited amine-based chemicals	Safe pigment dyes
Kerosene	Synthetic intensifier
Binders and resins with excess formaldehyde	Binders and resins with less formaldehyde
Resin with excess formaldehyde	Resin with less formaldehyde
Copper sulphate	Polymeric material

tant stage in obtaining an eco-label. The objective is to prove that the products introduced to the certificating institute are appropriate. At this stage, honesty is necessary because the institute is authorised to make tests any time it likes. Failing these tests results in the cancellation of the eco-label certificate [7].

Factors that make the eco-label necessary, and the advantages obtained from having it

The consumers are becoming more sensitive about the effects of the industrial pollution on the environment and the human health. There is an increasing demand for the use of environment-friendly chemicals, particularly in the production of textiles. The consumers are insisting more often on eco-labels which certify the environment-friendly nature of the product. These labels are particularly in demand in Western Europe (mostly in Germany).

After the cancellation of the quotas involved in the World Trade Organisation Agreement, exporters will be faced with more stringent environmental standards on the international markets. Producers are trying to maintain their existing markets, and also to enlarge their business by finding new ones, and for these reasons obtaining an eco-label is becoming more important.

The benefits of the eco-label can be summarised as follows:

- The increase in export market opportunities: The textile producers and retailers will probably be forced more and more often to use international eco-labels. Obtaining an eco-label will facilitate an increase of opportunities on the export markets.
- The improvement of the product quality: The removal of material which could be hazardous for the consumer from the fabric will improve the product quality [7].
- The improvement of the factory's image and its positive effects on the motivation of the personnel: Production which is sensitive to human and environmental ecology and the certification thereof not only increases the quality of the product, but also improves the reliability and the image of the company in public opinion (1). The environmental labels

Table 2. The comparison of costs of man's underwear produced with classical and environment-friendly methods (by SF).

Process	Cost (Classic)	Extra Environment Cost	Extra Environment Cost, %	Total cost
Braiding	1.48	0.09	6.1	1.57
Dyeing	0.28	0.02	7.1	0.30
Bleaching	0.20	0.00	0.0	0.20
Production	1.80	0.33	18.3	2.13
Packaging	0.50	0.20	60.0	0.70
Total	4.26	0.64	15.8	4.90

like the eco-label can be seen as a new 'social image' created by multinational companies, and as a current issue for an increasing number of companies throughout the world. The improvement of the social image of the company enlarges the customer portfolio and improves its competitive power as well as the motivation of the personnel, affecting the productivity positively.

- Financial savings: The processes of optimisation and improvement will ensure savings in the expenditure of water, chemicals and energy. The processing time will be shortened and correct production will be achieved right at the start. These advantages will balance the cost increases which generally arise from the use of environmentally-friendly chemicals or from the adaptation of a modified process.
- The improvement of the environmental performance: As a result of the decrease in the use of water, energy and raw materials, the amount and the potential pollution level of various emissions will also be reduced.
- As a step to obtaining ISO 14000 and ISO 9000 certificates: The fact that the quality control procedures are inseparable parts of the eco-label facilitates the application of the ISO 14000 and ISO 9000 systems.

A comparison of the costs of pro-environmental production using an eco-label with conventional production

The symbol of the environmental label shows that the production has a certain environmental quality, which is usually taken into account during purchasing. It is assumed that products thus labelled increase the sales or create an opportunity to raise prices.

A study comparing the costs of normal production and pro-environmental

production does not exist. Such a comparison made for a Swiss retailer company which started a pro-environmental strategy in 1994 is given in Table 2, and shows the costs of the entire stages of the environmentally-friendly process.

As can be seen in Table 2, in each production stage an extra environmental cost is involved. These extra costs arise from the use of more expensive raw material and harmless dyes from organic agriculture, investments in new machinery and equipment required for environmentalist production, and the costs arising from the fulfilment of other environmental standards. Moreover, environmental packaging also causes extra costs. The cost increase of packaging arises from the renewal of the packaging equipment, and applied only for this occasion. Excluding the extra packaging cost, the cost of pro-environmental products is 12-15% higher than those of the classical production.

Another study about the cost differences between the environmentally-friendly and classical products, or between similar products with different environmental standards, was prepared for the products available in the catalogues of biggest classical and environmental mail-order companies in Germany. In this study the differences in the production quality is not taken into account [3].

As shown in Table 3, the environmentally-friendly products are much more expensive than the classical ones.

Table 3. The cost comparison of environmental and classical production (DM).

Product	Production	
	Classic	Environmentalist
Bed-Sheet	15-100	50-160
Woman's sweatshirt	20-80	40-150
Woman's jean	25-160	90-200
Woman's cloth	35-180	90-290
Man's underwear	2-22	12-58
Man's pyjamas	20-70	50-100
Child's T-shirt	4-50	20-70

Therefore, textile and apparel stores are not greatly interested in the use of environmental labels except for underwear, bed-sheets and baby/child clothes which contact the skin. Some private textile and apparel companies have developed and introduced private collections apart from the retailers, but they have not generally been economically successful. All these developments show different outcomes of the supply. First of all, it is necessary to examine carefully the samples of environmental supply in the textile and apparel sector. However, it is still too early for a general estimation, as the environmental management and marketing applications in this field are not yet well established. The incompatibility with fashion trends, insufficient advertisement or marketing and high prices may be some of the factors that negatively affect the pro-environmental collections. It is necessary to better meet the expectations of the customers in order to increase the demand for environmentalist textiles. However, there are some important difficulties concerning the supply, such as:

- high investment costs,
- insufficient know-how,
- unpredictability of the prices, amounts and quality prior to the production,
- inadequate information for the customer,
- unpredictability of the demand, and
- the negligible advantage of distinguishing in the market

The worldwide distribution of the eco-labelled companies

For the time being, detergents, paints, lacquers and polishes, washing machines and dishwashers, batteries, electric bulbs, building materials, artificial fertilisers, toilet paper, absorbent papers and offset printing papers are the usual recipients of eco-labels. Food, beverages and medicine are excluded [4]. The number of eco-labelled companies in the world according to the product groups (by April 2005) is given in Figure 4 [13].

As can be seen in Figure 4 above, the eco-labelled companies are mostly found in the textile sector. The distribution of the eco-labelled companies and the eco-labelled textile companies by countries is given in Table 4.

27% of the eco-labelled companies in the world are in the textile sector, and the number of the eco-labelled textile com-

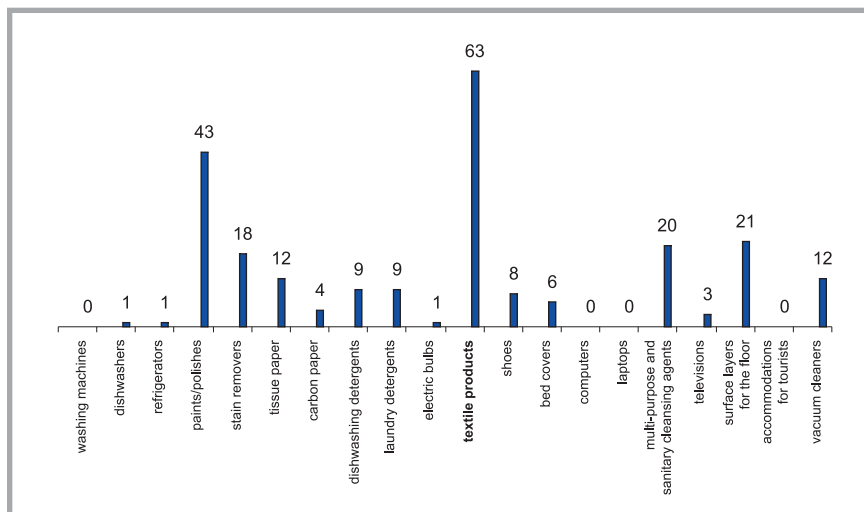


Figure 4. The number of eco-labelled companies in the world according to product groups.

panies as of April 2005 is 63. 26 of these companies are in Denmark, 9 in France and 7 in Italy. However, in Turkey, a country with a large textile and apparel industry, there are no eco-labelled textile companies.

The application of eco-labels in Turkey

The examination of the distribution of eco-labelled companies around the world calls to the attention that in Turkey, a country where the textile and apparel sector makes the biggest contribution to the gross national product, with a production value of approximately US\$ 40 billion, there are no eco-labelled companies, although there are many which conform to the eco-tex standards. The reasons may be explained as follows:

- insufficient presentation of the eco-label compared to other environment-friendly labels (Eco-tex Standard 100 etc.);
- the high cost of eco-labelled production;
- the fact that the consumers in the domestic market are not sufficiently aware and/or sensitive about the environment, or people with low incomes demand cheaper textile products, even though they may be environmentally sensitive and are aware that the eco-labelled products are more ecological; this would make it unnecessary for such companies to obtain an eco-label;
- the inadequate policy of the government to encouragement eco-labelled production.

As part of the government support to environmental costs, it is possible to

recover some of the money spent to get a certificate approving that the products of any Turkish company conform to international standards. This means that the government encourages companies to obtain the documents mentioned here below, and the amount of the subvention has been determined as 50% of the certification expenses.

Table 4. The number of eco-labelled companies and the eco-labelled textile companies in the world (by April 2005).

Countries	Eco-labelled companies	Eco-labelled textile companies
Austria	7	1
Belgium	2	1
Cyprus	-	-
Czech Republic	1	1
Germany	8	2
Denmark	50	26
Estonia	-	-
Greece	14	3
Spain	16	3
Finland	2	1
France	44	9
Hungary	1	-
Ireland	0	-
Italy	54	7
Lithuania	-	-
Latvia	-	-
Malta	-	-
Netherlands	11	1
Norway	3	1
Poland	1	-
Portugal	5	1
Sweden	13	5
Slovenia	-	-
Slovakia Republic	-	-
England	4	1
Total	236	63

- Certificate ISO 9000 for the company;
- Certificate ISO 14000 for the company;
- the CE symbol for the product;
- other international quality and environmental certificates for the product.

The special requirements for the government support to environmental costs are as follows:

- Only small and medium enterprises are entitled to the government support.
- The certificates should be issued by an international certification organisation.
- The CE symbol is specific to international quality and environment certificates, and a product cannot be supported more than once. Moreover, each product can benefit from that right within three years following the approval of the Undersecretariat For Foreign Trade [14].

Although the ISO certificates and the CE symbols take place among the government promotions to support the environmental costs, the eco-label is not mentioned separately and is considered as part of 'other quality and environment certificates', showing that its importance is underestimated.

Within the framework of Turkey's adaptation to the common trade policy with the EU, one of the most important subjects for the textile industry is the limitation of production, importation and the use of chemicals hazardous for human health. In Germany, Netherlands and Sweden, as well as in some other European countries there are legal regulations involving chemicals hazardous for human health, and some other regulations are also being prepared. The textile and apparel products are subject to most of the technical restrictions in the international markets and in the EU in particular. The EU countries have put new environmental standards into practice all over the world by the environmental labelling system, namely the Eco-label and Ecotex Standards for environment-friendly textile production. The admittance of the products to the EU countries is subject to these standards. The quotas will be cancelled after 2005, and henceforth the technical restrictions will be exploited to limit the textile and apparel products of the developing countries [15]. Therefore, the Turkish textile and apparel industry should adopt high-quality and environment-friendly production in order to be able to compete with countries like China, where the production costs are very low.

Conclusions

■ Sensitivity to the production and consumption conforming to the environmental standards is growing day by day all over the world. Now the production fulfilling the international quality and environmental standards is indispensable in order to be able to compete on international markets. Turkish companies should fulfil these standards, and also be certified by them. The sector, which is contributing greatly to the national economy concerning employment, value-added income and export potential, has to fulfil international standards in order to be able to maintain its efficiency in the international markets, as well as its position as the principal sector creating the most value-added income.

■ Consequently, apart from the quotas, it is necessary to be alert to technical restrictions that may be imposed by the industrialised countries, in particular with the aim of protecting the environment. While integrating with the EU, the correct strategy for the sector to adopt in order to minimise the losses is meeting the technical necessities, keeping an eye on new standards for the protection of the environment accepted by the EU, and adapting itself to them. Such a policy will be greatly to the advantage of the Turkish textile and apparel sector, which will be forced by international competition from some countries (China, India, Pakistan and other cost-centred countries), and it will enable the sector to distinguish itself. The Turkish textile products, when in conformity with the EU instructions and with environmental labels accepted by the EU countries, will not be limited by technical restrictions, and will gain a higher competitive power in the international markets.

■ Most important of all, by adapting itself to the environmental labels accepted by the EU, the Turkish textile and apparel industry will be trademarked, and will thus be able to raise the prices of its products. Therefore, it is necessary to improve the government supports granted to small and medium enterprises in particular, and to encourage the companies to produce according to the EU norms.

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Received 11.05.2006 Reviewed 21.06.2006