

## WORKSHOP

Sub-regional workshop on  
Environmental Requirements, Market Access/  
Penetration and Export Competitiveness for  
Leather and Footwear

**Bangkok, 19-21 November 2003**

## PROJECT

Project on Building Capacity for Improved Policy  
Making and Negotiation on Key Trade and  
Environment Issues

## STUDY

**DRAFT**

Draft Study on Environmental Requirements,  
Market Access and Export Competitiveness for  
Leather and Footwear in

**Cambodia**



**UNCTAD**

**NATIONAL CASE STUDY  
ON ENVIRONMENTAL  
REQUIREMENTS IN  
KEY MARKETS FOR THE  
FOOTWEAR INDUSTRY**

***CAMBODIA***

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## **EXECUTIVE SUMMARY**

The footwear industry in Cambodia, though relatively small with only 10 manufacturing plants sharing export value of USD 31 million in 2002, is facing increasing competition from neighboring countries, especially China and Vietnam, and also mounting challenge to meet stringent criteria from its main market EU.

Strong Green Consumerism pattern is developing in EU with the adoption across the continent of Eco-Label “The Flower” setting environmental requirements standard for most products (except food and services). Though such standards are adopted on voluntarily basis by manufacturers, the trend is developing with further consumers’ demand.

This survey goes through the various criteria set forth by EU market primarily (especially Germany and France) since the other major market Japan, for Cambodian footwear exports, does not have any guidelines nor environmental or health requirements for imports.

Particular findings were made on the awareness from Cambodia on issues and how the effectiveness of information management is assessed from the national and sub-regional perspectives.

In view of the upcoming trend to accord trading privileges to regional blocks rather than bilateral basis, Cambodia must work towards better regional integration within ASEAN to enhance its competitiveness as well as seeking alternatives for better logistics and sourcing.

Finally a overview of the need for institutional capacity building is effected through analyzing the global trend for the footwear sector and a suggested action plan to follow with more in-depth study and action in due time.

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## **I/ - Introduction**

### ***A - The Leather Industry in Cambodia***

*Considering the leather Industry in Cambodia is non existing as currently there are only 2 very small scale factories producing raw/unprocessed cow leather for mostly export to neighboring Vietnam, it was deemed insignificant and the study would be focusing mainly on the footwear sector in Cambodia instead. Leather exports from Cambodia amounted to a mere value of \$ 330,000/= <sup>1</sup> in 2002*

### ***B - The Footwear Industry in Cambodia***

The Footwear Industry is as recent in Cambodia as its sister the Garment one<sup>2</sup> with the first footwear factory set up in 1995 but the majority of factories were established only in 1998. The industry is relatively small though with 10 existing factories (predominantly Taiwanese investments) regrouped under the banner of the Cambodia Shoes Industry Association (CSIA). *In comparison, neighboring Vietnam has 200 Footwear Factories –again predominantly Taiwanese investments—with vertical integration making it a strong competitor.*

China and Vietnam are the major competitors as they are respectively the top and second exporters of footwear into EU. Vietnamese exports by the leather and footwear sector have reached US\$708 million in June 2002, an increase of 10 per cent over the same period the previous year. Vietnam now has 233 enterprises making footwear, 76 of them State-owned, 80 privately-owned and 77 foreign-invested. They produce 420 million pairs of footwear a year, 47.5% by State and 25% by private firms (*Vietnamese Shoes Manufacturers Association as well as Vietnam Trade Promotion Agency were not forthcoming at all in clarifying details on where could be the rest despite repeated requests sent to them*).

In comparison, the Cambodian footwear industry exported only worth of \$ 28 million in 2001 and \$ 31 million in 2002 and the markets are predominantly EU (57% of export) and Japan (34% of export)<sup>3</sup> with other smaller and insignificant markets such as US, Canada, South Africa, etc... Both primary markets grant Duty Free status to Cambodian made footwear products. However, Japan which provided Tax Free to footwear items manufactured in Bangladesh, Cambodia & Myanmar, is considering presently bringing forward the Tax Free grace period set till 2011 initially.

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<sup>1</sup> Ministry of Commerce – Statistics GSP Dept

<sup>2</sup> Garment Industry in Cambodia was established in 1996 and really took off spectacularly in 1997 when the US granted MFN status to the country – Garment Manufacturers Association in Cambodia (GMAC)

<sup>3</sup> Ministry of Commerce – Statistics GSP Dept

<b>Footwear - 2002</b>	<b>Value</b>	<b>Percentage</b>
<b>Total Export</b>	\$ 31,738,246.00	
<b>Total EU Export</b>	\$ 18,245,660.00	57%
<b>Germany</b>	\$ 11,018,272.00	60% of EU
<b>France</b>	\$ 3,344,243.00	18% of EU
<b>Netherlands</b>	\$ 1,297,292.00	7% of EU
<b>Japan</b>	\$ 10,804,651.00	34%

Source: Ministry of Commerce - 2002

The Industry players reckoned that the country currently only produces 13.6 million pairs against a potential capacity of 24 million pairs. Like its sister Garment Industry, the Footwear sector needs to import all the raw materials (with 70% originated from Taiwan)<sup>1</sup>.

Given this scenario, lead time to major EU markets is affected accordingly:

- Cambodia           3 to 4 months
- Vietnam            2 months
- China                1.5 month

It will be a long time before due vertical integration is possible in Cambodia, and the question remains as per how long could the industry survive through intense competition from the region. Survival is dependable on continuation of Duty Free status granted by its main export markets for Cambodia as an LDC but would the rules change upon its *now almost secure* forthcoming accession to WTO by September 2003 in Cancùn –Mexico--?

## **II/ - Environmental & Health Requirements in Key Export Markets**

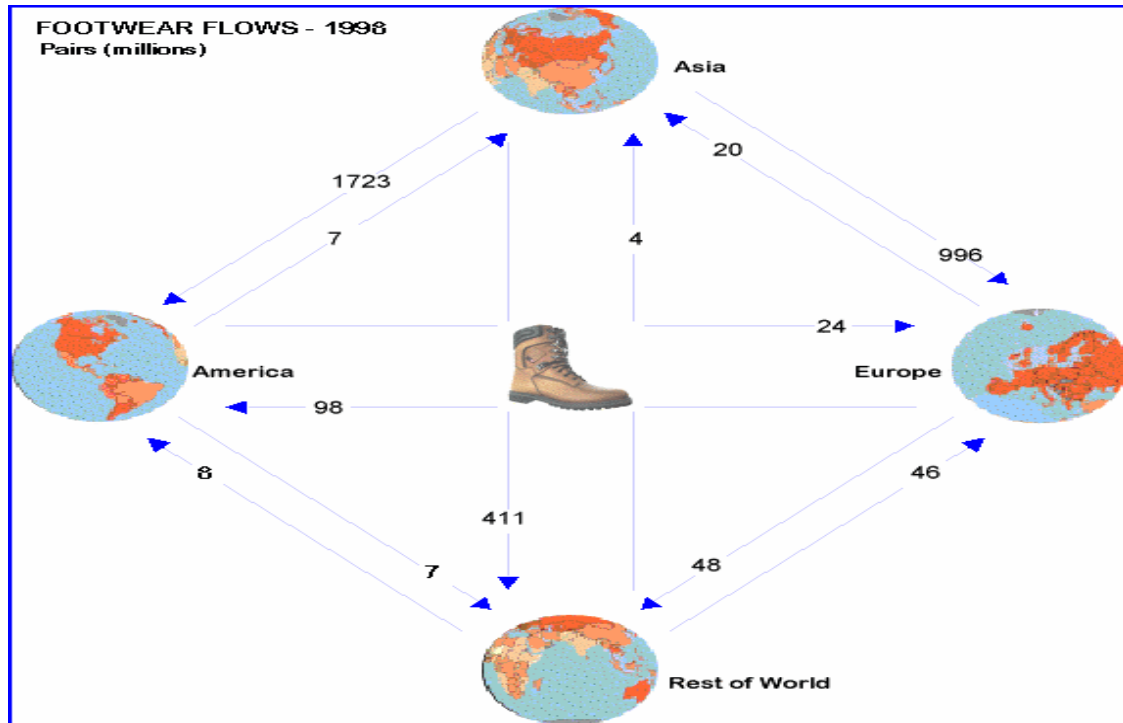
Trade in footwear is dominated by exports from Asia to the Americas, to Europe and the rest of the world. The other largest flows are from Europe to the Americas and to the rest of the world. Trade between the rest of the world and the Americas are very small as are exports from the Americas to Asia.

Shifts in exports of footwear during the period 1985-96 are shown in Figure 8. Exports from the Far East more than doubled during the period while Europe's exports slit from 62% to 32% of the world's total.

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<sup>1</sup> Cambodia Shoes Industry Association

Figure - Net flow of Footwear around the World –1998 - (millions of pairs)



## II.A) EU Market

### A.1 - Overview of the EU footwear industry

For some years now, the industry has been modernizing and restructuring in the face of mounting pressure of international competition and the advent of new technologies. The European countries have turned more to high-quality products which are more diversified and offer greater added value. This does not mean that the top end of the European market is dominated by first-class European products, while the lower end is "reserved" for products imported from low-wage countries. In fact, the segment for down-market products is being replaced more and more by medium-quality products in which a considerable part of the European industry is still involved and is highly competitive. Moreover, companies that traditionally used to produce at the top end of the market gradually had to add less expensive models to their range.

*Suppliers of Footwear to EU market – 1999 statistics- EuroStat*

Supplier	Pairs (millions)	Increase/decrease from previous year %
China	298.6	+10.2
Vietnam	175.3	+19.6
Indonesia	63.5	-5.2
Taiwan (Province of China)	43.9	+16.4
Romania	42.4	+27.1

Imports of Footwear into EU	1996	1997	1998	1999	share of imports
World	5,909,606	7,035,419	6,989,383	7,835,342	100.0%
China	1,151,262	1,282,483	1,261,782	1,380,557	17.6%
Vietnam	544,295	874,444	966,688	1,283,023	16.4%
Romania	371,426	497,004	565,124	661,004	8.4%
Indonesia	688,358	761,276	588,151	580,784	7.4%
India	345,897	391,258	376,691	428,500	5.5%
Thailand	262,945	304,999	321,359	297,604	3.8%
Hungary	238,193	280,524	275,244	293,265	3.7%
Tunisia	186,779	213,761	230,104	263,249	3.4%
Taiwan	156,260	231,945	210,617	233,345	3.0%
Hong Kong	59,191	91,958	114,249	218,051	2.8%

## A.2 - Structure of the industry

The European footwear industry consists of a large number of small enterprises (some 20 employees), most of which are located in regions with little industrial diversity. However, there are differences from one Member State to the other: French and German business employ about 100 persons, while Spanish and Italian businesses employ about a dozen. The other Member States lie between these two extremes.

The geographical concentration of the sector, its high labor-intensity and its considerable price-sensitivity towards low-price imports produce a situation in which the slightest fluctuation in the level of economic activity has major regional and social repercussions.

## A.3 - Specialized distribution

Specialized distribution plays a particularly important role in the European footwear sector and accounts for half of its turnover. There are some 80,000 sales outlets employing some 300,000 persons (about as many as the industry). A special relationship of service and trust has developed between retailers and consumers, in which children's footwear occupies a special place.

## A.4 - Production, consumption and employment in the European Union

After a decline of 4.6% between 1997 and 1998, European production fell by a further 6.1% in 1999, to stand at fewer than one billion pairs for the first time. This fall in production is mainly due to a drastic reduction in exports: -13.4% in 1999, after a drop of 10.2% in 1998.

15-EUROPE	
Production (pairs)	974.793.000
Exports (pairs)	231.830.000
Imports (pairs)	897.691.000
Apparent consumption (pairs)	1.640.654.000
Apparent consumption per capital (pairs/habitant)	4,38
Number of companies	13.318
Number of workers	288.460

Source: EUROSTAT, National Federations – 1999

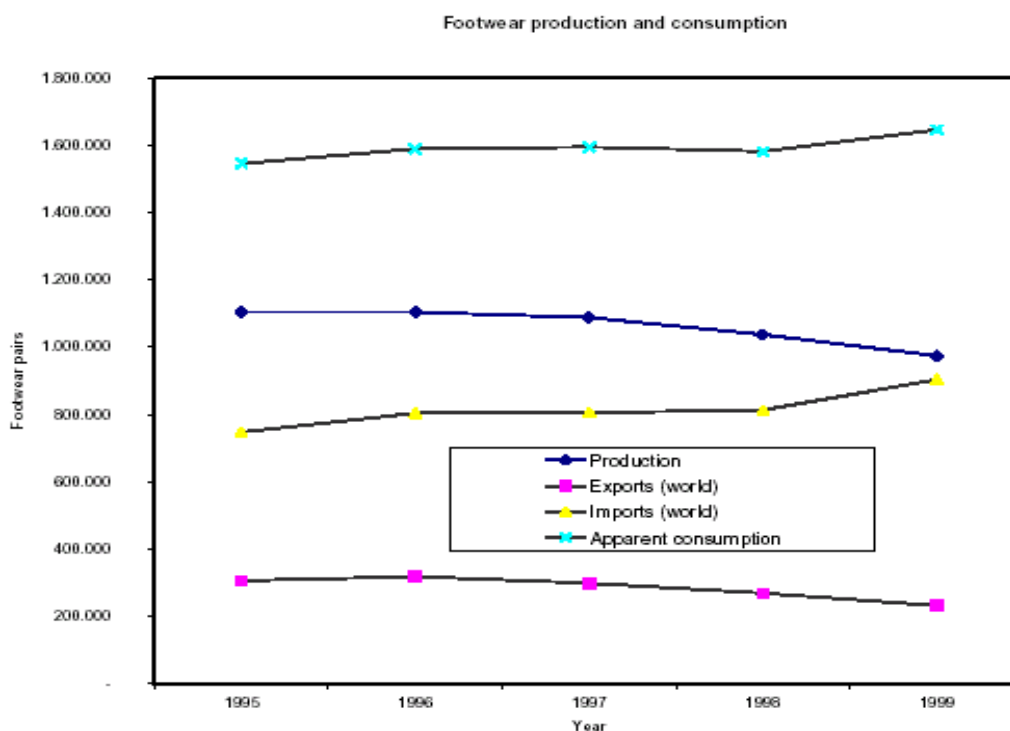
One important factor for consideration is the expected incorporation of new Member States into EU that as per 1999 data figures would entail:

- Turkey 227 million pairs
- Poland 50 million pairs
- Czech Republic 14 million pairs
- Hungary 13 million pairs
- Slovakia 8 million pairs

This would translate into a total of 312 million pairs added onto the 974 of EU as in 1999 statistics resulting in a significant increase of over 30% situating European footwear production to close to 1.3 billion pairs per annum.

The increase in apparent consumption (i.e. including stocks) (+4%) was the overall result of rising imports (+11.2%). This means that the share of European producers in the European market fell from 49% in 1998 to 45% in 1999. China accounted for 18.3% of this market (compared with 17.2% in 1998)<sup>1</sup>

The development in the last few years for European pattern is reflected in the following diagram:



Source: EUROSTAT, National Federations – 1999

<sup>1</sup> EU Commission – Footwear Enterprise Survey

### A.5 - Relocation of a part of production

The footwear industry has made systematic efforts to keep as many jobs as possible within the European Union. Faced with market pressure, the Asian and Russian crises and competition from low-cost countries, the industry is moving a part of its production to third countries (mainly the CEECs and the Maghreb countries). This movement accelerated in 1998, 1999 and 2000.

### A.6 - Strengthening the EU internal market

The Single Market is one of the EU's greatest achievements. It has a direct and growing impact on citizens and business in terms of enhanced employment and commercial opportunities, wider choice of goods and services, lower prices, labor mobility and international competitiveness.

There is one directive in the footwear sector specifically relating to the internal market<sup>1</sup>. The state of implementation of this directive was the subject of the *"Evaluation Report on the Implementation of Directive 94/11/EC - Labeling of the materials used in the main components of footwear"* adopted by the Commission (COM(2000)812 final) on December 7, 2000. This report concluded that, 6 years after its publication, consumer information and protection and to ensure the free movement of footwear throughout the European Union. [OBSERVATION: What do you want to say here???](#)

In most of the Member States, the national transposition measures adhere almost word for word to the text of the Directive, and the Member States generally regard their national legislation as adequate for effective application of all the aspects of the Directive. Harmonization of the legislation of the various Member States on a minimum common labeling system has enabled manufacturers to provide consumers with better information and increased transparency.

### A.7 - EU Eco-Label - "The Flower"



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<sup>1</sup> Directive 94/11/EC of the European Parliament and Council of 23 March 1994, on the approximation of the laws, regulations and administrative provisions of the Member States relating to labeling of the materials)

Established in 1992, the Flower is a unique certification scheme aimed at helping EU consumers distinguish greener and more environmentally friendly goods and services (excluding food and medicine).

It has evolved over the last decade to become a European-wide symbol for products, providing simple and accurate guidance to consumers. Products bearing such stamp were checked by independent bodies for compliance to strict ecological and performance criteria.

The EU Eco-Label “Flower” is administered by the European Eco-Labeling Board (EUEB) and has the support of the European Commission, all Member States of EU and the European Economic Area (EEA). Environment protection groups, industry and consumer organizations are represented on the Board. It revised the criteria for such label award every 3 to 5 years to keep up with the stream of technical improvements most products are subject to.

The EU Eco-Label “Flower” applies to all categories of shoes, including sports shoes, occupational, children’s, men’s and women’s town, specialist shoes for cold, casual, fashion and indoors. But the “Flower” label is just a voluntary scheme enabling European consumers to identify officially approved green products across the European Union, Norway, Liechtenstein and Iceland.

The Flower excludes the use of substances harmful for the environment and health e.g. Pentachlorophenol (PCP), Tetrachlorophenol (TCP) and certain azo dyes and chloralkanes, and sets limits for residues of formaldehyde and metals like Chromium (VI), Arsenic, Cadmium and Lead in the final product. In this way, the Flower limits water pollution and reduces emissions of volatile organic compounds during production. PVC may only be used in outsoles and must be recycled PVC. Furthermore, the Flower requires different aspects of durability which are carefully controlled. And finally, the packaging of eco-labeled footwear shall be made from recycled material.

#### ***A.7.1 - Definition of product category***

Currently footwear product category is being defined as “all articles of clothing designed to protect or cover the foot with a fixed outer sole coming into contact with the ground”. Shoes have slightly less potential than clothing to injure health as they rarely come directly into contact with the skin. Nonetheless, through sweat or rain, the residues of tanning agents, dyes and adhesives may reach the skin and be absorbed by it. Some of these residues may cause allergies, nervous lesions or even cancer<sup>1</sup>

In this context, an Eco-Label definitely has a chance of being heeded. Somehow, the topic of shoes as a health hazard has not been covered by the media to the same extent as hazards due to textiles and clothing. That points to a weaker position for Eco-Labels in the field of

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<sup>1</sup> Bernard,1996, p.30ff.

leather and footwear than in the field of clothing and textiles. The potential effect of Eco-Labels is more difficult to assess here than with regard to textiles and clothing.

### ***A.7.2 - Other Eco-Labeling Systems***

Presently there are three (3) licenses for footwear Eco-Labeling (1 in Spain and 2 in Italy) which correspond to 3 different companies. Besides the EU Eco-Labeling system, which took hint from criteria established by the Danish label, there is another system that collects specific criteria for the footwear category and it is the Holland system<sup>1</sup>

### ***A.7.3 - Criteria Evaluated***

The European Commission Decision in February 17, 1999<sup>2</sup> has set forth the criteria for footwear products category (code 017), collected in the European Eco-Labeling system and valid till March 31, 2002. *New revised criteria was not obtainable yet at time of this study.*

Subsequent AHWG Meetings determined the current criteria in place:

#### ***A.7.3.a - N-Nitrosamines in Rubber***

A new criterion is included stating the **list of N-nitrosamines that shall not be detected** in rubber using the test method EN 12868 (1999-12).

In the formulation of rubber several fillers, accelerators, activators, antioxidants, processing oils, etc. are normally used. In order to vulcanise rubber, the use of high temperatures is required so as to form compounds which were not in the original composition. N-nitrosamines are an example of the products formed during processing.

They are the result of the nitration of secondary and tertiary amines (precursor compounds) by nitrating agents (nitrogen oxides and/or nitrite and nitrate ions). They are volatile compounds but can remain retained in the material. Vulcanisation accelerators with secondary amino groups are precursor compounds of N-nitrosamines, regularly used in the rubber industry.

N-nitrosamines are highly toxic and carcinogenic products. N-nitrosodimethylamine (NDMA) appears the most frequently and represents the biggest share of nitrosamines found in any given sample, although others have been detected such as N-nitrosodiethylamine (NDEA), N-nitrosodi-n-propylamine (NDPA), N-nitrosodibutylamine (NDBA), N-nitrosopiperidine (NPIP), N-nitrosopyrrolidine (NPYR), N-nitrosomorpholine (NMOR), N-nitrosodiphenylamine (NDPhA), etc.

N-nitrosamines in the product:

<sup>1</sup> Source: GEN (Global Eco-Labeling Network) April 2001

<sup>2</sup> 1999/179/EC Official Journal of the European Communities, 5.3.99

Bearing in mind the threat that N-nitrosamines pose to consumers, the Directive 93/11/EEC provides a limit for the amount that can be released from children's dummies and teats, as well as the analysis methods.

The limits are 0.01 mg of the total N-nitrosamines /kg of material and 0.1 mg of nitrosable products /kg of material. It also provided a standardised analysis method: EN 12868 (1999-12) "Child use and care articles- Methods for determining the release of N-nitrosamines and N-nitrosable substances from elastomer or rubber teats and soothers". Observation: Normally it does not come into mouth contact.

N-nitrosamine emissions:

With respect to workers' exposure level to N-nitrosamines, the exposure limit provided by the regulation in Germany (Technischen Regel für Gefahrstoffe TRGS 552) is 2.5 µg/m<sup>3</sup> for the total amount of N-nitrosamines.

Studies on the concentration of N-nitrosamines in the environment carried out on rubber production companies, have revealed N-nitrosamine concentrations of up to 3.55 µg/m<sup>3</sup> in the vulcanisation zone.

Accelerators which do not generate N-nitrosamines. According to studies, dithiophosphates are in general good vulcanising agents which have the added advantage of not being precursors of nitrosamines. However they do have some disadvantages such as: needing a co-accelerator, providing less synergy action and needing greater doses due to the increased molecular weight.

Systems based on dithiophosphate accelerators together with sulphur, sulphur donor and a secondary accelerator have been developed which do not appear to generate nitrosamines.

In view of this, it appears advisable to establish a new requirement which would limit the content of N-nitrosamines in rubber, assuming that the non presence of N-nitrosamines in the material means their non-presence also in emissions during the vulcanisation process.

The following list of N-Nitrosamine shall not be detected in rubber using the test method EN 12868:1999:

- N-Nitrosodimethylamine (NDMA)
- N-Nitrosodiethylamine (NDEA)
- N-Nitrosodipropylamine (NDPA)
- N-Nitrosodibutylamine (NDBA)
- N-Nitrosopiperidine (NPIP)
- N-Nitrosopyrrolidine (NPYR)
- N-Nitrosomorpholine (NMOR)
- N-Nitroso N-methyl N-phenylamine (NMPPhA)
- N-Nitroso N-ethyl N-phenylamine (NEPhA)

#### ***A.7.3.b - COD (Chemical Oxygen Demand) Reduction***

No limit agreed to date and therefore it was decided to keep the present criteria but with an increment of the percentage of **reduction to 85%** --including the textile industry--

One of the ecological criteria established for the award of the ecological label according to the Commission Decision of 17th February 1999, relating to the emissions while producing the material, is the one which states that “The waste water from leather tanning sites shall be treated, either by an in-house or municipal waste water treatment plant/facility, so as to achieve a reduction of the COD content of at least 75%”.

This requirement presents the following problems:

- ❖ The smaller the content of COD in water is, the more technically complicated it is to reduce 75% of COD: for example, starting with an initial amount of 8.000 mg O<sub>2</sub>/l of COD is simpler than with an amount 1.500 mg O<sub>2</sub>/l. Besides, a 75% reduction in the first case would imply 2.000 mg O<sub>2</sub>/l (a higher value than the second case), while a 75% reduction starting from 1.500 mg O<sub>2</sub>/l would require a value below 375 mg O<sub>2</sub>/l.
- ❖ Moreover, the above problem could cause that when reducing 75% of the initial value of COD, the COD value reached could allow a company to gain access to the ecolabel but without complying with the environmental legislation, which would be a serious contradiction.

Because of this, it seems more appropriate to consider a new criterion in accordance with an absolute value based on discharge limits established by the legislation in force. However, there is no evidence of the existence of any EU Directive in which COD values are limited in a quantitative way, but guidelines are given in these Directives so that the different EU countries can legislate with respect to this. In this context, each European country has different discharge limits for the COD value established, and in some EU countries, different limits are established according to where spilling takes place, surface waters or by sewer system network with subsequent treatment in a sewage treatment plant, the competent bodies in charge of spilling being different also.

The following table shows these differences.

**TABLE: COD discharge limits**

<i>COUNTRY</i>	<i>COD (mg O<sub>2</sub>/l) Discharge limit in surface waters</i>	<i>COD (mg O<sub>2</sub>/l) Discharge limit in public sewage network</i>
Germany	250 - 200	500
Italy	160	
Austria	200	
France	300 - 125	
Portugal	150	
Great Britain		2000 - 5000
Spain	500 - 200 - 160	1500 - 2500

*Source: AENOR (Asociación Española de Normalización y Certificación)*

Given the differences, it seems more suitable that the new proposed criterion is independent of the limits established by the legislation in force in each country and, where appropriate, where the dumping is carried out, given that criteria are intended to be united in order to establish a unique value.

It is also considered reasonable to equip tanneries with either their own or a community sewage treatment system, specifying whether tannery sewage goes to the sewer system or surface waters and establishing different limitations. In this sense it was proposed to modify the requirement as follows:

## **2. Emissions from the production of material.**

Tannery waste water will be treated in the company's own, community or municipal waste water treatment plant, so that the COD value when leaving the plant being less than:

1.500 mg O<sub>2</sub>/l if in sewer system  
125 mg O<sub>2</sub>/l if in a public channel

Test method (the test report will be included in the application, and the supplementary data also)

COD: ISO 6060 Water quality, determination of Chemical Oxygen Demand.

*Source: AENOR (Asociación Española de Normalización y Certificación)*

### **A.7.3.c – Chromium Recovery**

During chrome tanning, approximately 20% of chrome is not fixed to the leather, and as a result it is discharged into the tannery waste water. The normal practice is that these tanning residual baths are added to the rest of the residual effluent and are treated in the company waste water plant, where chrome is precipitated as chrome hydroxide,

leaving it retained in the sewage treatment sludge.

In this context, each European country has different discharge limits established for the chrome content value of the effluent, as can be seen in the following table.

**TABLE: Chrome discharge limits**

COUNTRY	$Cr^{+3}$ (mg/l)	$Cr^{+3}$ (mg/l)
	Effluent discharged in public channel	Effluent discharged in sewage treatment plant
Germany	2	1
Italy	4	-
Austria	1	4
France	1	1.5
Portugal	2	-
Spain	4 – 3 – 2 (Cr III)	5 - 10
Great Britain	2 - 5	10 - 20

Source: INESCOP (Instituto Tecnológico del Calzado y Conexas)

There is no evidence of the existence of any EU Directive in which chrome values are limited in a quantitative way, but guidelines are given in the Directives so that different EU countries can legislate with regards to this. However in the Best Available Techniques Reference Document on the Tanning of Hides and Skins.

For the Integrated Pollution Prevention and Control (IPPC), May 2001, different alternatives for the reduction of the chrome content in tannery waste water are established, with implementation of the Best Available Technologies which are:

- ❖ Substitution of chrome as a tanning agent:

Other tanning agents can be used, such as aluminium, zirconium, etc.. Nevertheless, the quality of the obtained leathers is not comparable to the chrome-tanned leather.

- ❖ Exhaustion of chrome in the tanning baths:

It is normal practice in the tanneries to exhaust as much as possible the tanning baths, decreasing the presence of chrome in their effluents and thus reducing both the amount of sludge generated and the chrome content of the sludge. However, the exhaustion of the tanning bath does have its disadvantages given that shrinkage and wrinkles in the leather can be produced. This is due to the fact that in order to exhaust the bath, “dry” tanning is carried out which involves a small quantity of water, rapid drum rotation and a more basificated bath so that the mechanical effect provokes an increase in temperature of the leathers which causes shrinkage of the leather and the loss of surface.

## ❖ Recirculation of the tanning baths.

In this last case, by means of recirculating the tanning bath, it is possible to save 40% of chrome salt and other reagents. Moreover, chrome in waste water is reduced by 40 to 50%, and as a result, the chrome content in the sludge is reduced also. In this way, tannery industrial effluent, which can contain between 100 and 400 mg Cr<sup>3+</sup>/l, can reduce its content to between 60 and 160 mg Cr<sup>3+</sup>/l, before the treatment of waste water. Likewise, the reduction of the chrome content in effluent implies a lower reagent consumption in their treatment and a reduction in the chrome content in the sludge, so their management is therefore cheaper and they could even be used in agriculture, if they reach the established values (according to the Spanish tannery association nowadays it is not feasible to reach these values). This technique requires a simple and flexible application for the majority of leathers and hides, although it is not adopted in many European factories for fear of endangering the quality of the articles given that the color of tanned leather (wet-blue) can be modified and this can have negative effects on the dyeing process.

The maximum amount of chrome that the tannery sludge can contain in order to be used for agricultural purposes in different EU countries is reflected in the following table:

**TABLE: Chrome limits for agricultural sludge**

COUNTRY	mg Cr <sup>3+</sup> /Kg dry sludge
Germany	100
Belgium	150
Denmark	100
France	150 (pH>6)
Spain	1000 (pH<7)
	1500 (pH>7)
Great Britain	600 (pH>6.5)

Source: INESCOP (Instituto Tecnológico del Calzado y Conexas)

According to the Best Available Techniques Reference Document on the Tanning of Hides and Skins, Integrated Pollution Prevention and Control (IPPC), different alternatives for the reduction of the chrome content in tannery waste water are established.

As such, it was proposed to include a criterion on textiles and leather chromium recovery as:

**Tannery waste water after treatment shall contain less than 5 mg Chromium (III)/l.**

Applicants shall provide a test report and complementary data, using test methods: ISO 9174 or EN 1233 or EN ISO 11885 for Cr.

**A.7.3.d – C10-C13 Chloralkanes**

A criterion limiting use of chloralkanes is exercised:

**C10-C13 Chloralkanes shall not be used in leather, rubber or textile components.**

Short chain chlorinated paraffins (SCCPs) are used in the tanning industry in leather finishing as liquid greasing agents. They can represent 20% of the greasing liquor, and 95% of them is absorbed by the leather which would mean that 5% is incorporated into the waste water. They are also used in the rubber industry and in the textile industry as flame retardant, as well as in the formulation of hot-melt adhesives and in some fluids used for metal finishing.

SCCPs are not toxic through contact with the skin, they are persistent agents which are not easily degradable by natural mechanisms, they are bio-accumulative substances which concentrate mainly on aquatic animal tissues, and enzymatic disrupters which alter the hormonal system of living beings causing carcinogenic processes to take place. They have toxic effects on aquatic animals through the prolonged exposure to higher concentrations than normal (0,12 - 1,45 µg/l) while the effects on humans are not yet clear. The carcinogenic effect of these substances has been tested on rodents but not on human beings.

In the proposal for European Parliament and Council Directive whereby the Directive 76/769/EEC is modified for the twentieth time, provides that the twentieth amendment of this directive will ban short chain chlorinated paraffins (SCCPs) in the metallurgy and leather finishing sectors.

Moreover, the European Parliament wants to extend the prohibition of SCCPs to other sectors, as flame retardant in rubber and textiles. The Commission's proposal is to ban 98% of the SCCPs used currently, which would mean that just 50 kg/year of these substances would remain in all the European Union, considering this amount to pose no risk.

Given the obvious European desire to ban these substances, the requirements of footwear ecolabel could come earlier than the enforcement of the legal obligation, so that C10-C13 chloroalkanes are non detectable neither leather nor in rubber and textile. A specific analysis method has not been found for the determination of C10-C13 chloroalkanes in leather, rubber or textile.

The following text is proposed in order to be incorporated as a new criterion in point 3 of the ecological criteria "3. Use of harmful substances (up until purchase)

***A.7.3.e – Energy Consumption***

It was agreed to request the applicant to provide on a voluntary basis detailed information on the energy consumption per pair of footwear.

The determination of energy consumption along the life cycle of footwear is not an easy task, given that a shoe is composed of components of different types and come from different suppliers. As a first step the energy consumption exclusively derived from the

process machinery during production could be considered. This consideration is being dealt with by CEN/TC 309 WG2, proposing as a method to employ the international standard ISO 7176-4:1988 (Wheelchairs - Part 4: Determination of energy consumption of electric wheelchairs).

The proposed limits for ecolabelling (in accordance with CEN/TC 309 WG2) are 6.6 MJ/pair for footwear which requires moulding or vulcanising operations, and 3.6 MJ/pair for all other footwear.

**The energy consumed during the footwear process (for the type of shoe being certified), tested according to CEN TC WI 065 4.8, shall not exceed the following:**

- . 6,6 MJ/pair (1,8 kWh/pair) for shoes which include molding or vulcanizing operations**
- . 3,6 MJ/pair (1,0 kWh/pair) for all other footwear**

#### ***A.7.3.f – Re-use of Footwear***

Footwear which is at the end of its life cycle and destined for abandonment is a product which is difficult to recycle: on the one hand concerning its wide geographical distribution (which could be solved using selective collection in footwear sales points or by means of the separation in municipal collection plants of waste materials) and, on the other hand and more importantly, the technical unfeasibility of the recovery of materials which make up the shoe at the end of its life cycle due to the difficulty in separating them.

Nonetheless, there are good practices which could be promoted with regards to the reuse of shoes, for example, there exist organizations that collect, clean, repair and re-sell shoes, similar to those which deal with clothes, furniture and fittings in disuse.

A new text, of generic type, is added within the criteria of consumer information:  
***“Where possible repair your footwear rather than throw them away. This is less damaging to the environment”.***

#### ***A.7.3.g – Use of PVC***

PVC is a material used in the footwear sector as a sole material due to its advantages over other materials:

- Great versatility and easy transformation
- Lower cost compared to other sole materials

However and in view of establishing ecological criteria which a shoe has to fulfil, one ought to bear in mind the existing controversy surrounding the use of this material and

its final disposal.

The environmental problems are as follows:

- The monomer employed in its manufacture is highly carcinogenic when high doses are continually inhaled.
- The chlorine used for its manufacture can also produce environmental pollution.
- The release of hydrochloric acid during accidental or provoked combustion
- The possible formation of dioxins during PVC incineration
- The migration, under certain conditions, of some of the formulation components, with the resulting modification of the properties of the final product, as well as the contamination of the substances with which it comes into contact and the possible production of lixiviations in dumping sites.

After consideration of 3 possibilities (no criterion, ban the PVC and only permit the use of recycled PCV in outsoles) the European Commission adopted the 3<sup>rd</sup> alternative: ***“The footwear shall not contain PVC. Recycled PVC may, however, be used in outsoles.”***

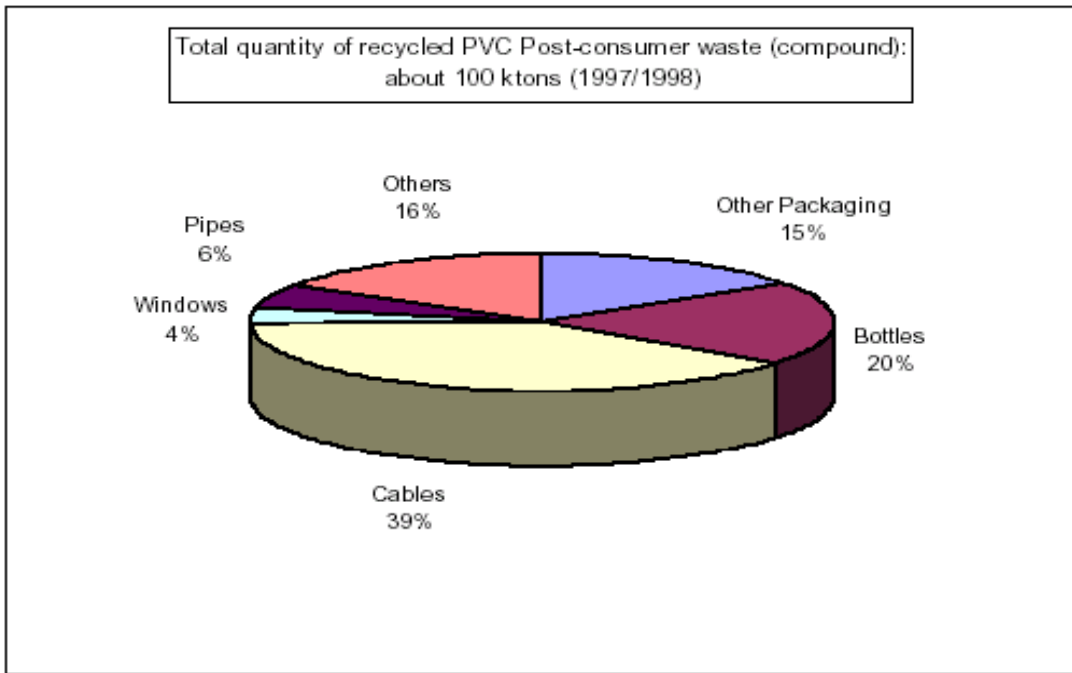
In recycling PVC wastes, let us look at the relevant classification of such for footwear:

PVC Applications <sup>a)</sup>	PVC Waste types (X = existing or possible)					
	Pre-consumer Wastes		Post-consumer Wastes			
	Pro-duction Wastes	Instal-lation Wastes	PVC "Mono Fractions"		Composite Products/Materials	
			Separate Collection	Mixed Collection	Separate Collection	Mixed Collection
<b>4. Other consumer and commercial products</b>						
Bags, luggage, cushions (F)	X				X	X
Office supply, books, photo articles (F)	X				X	X
Camping, leisure, toys (F)	X			X		X
Misc. plasticised films (F)	X					X
Garden hoses (F)	X			X		
Drinking hoses (F)	X			X		
Other industrial hoses (F)	X			X		
Other flexible profiles (F)	X	X		X		X
Artificial leather (F)	X	X				X
Conveyor belts (F)	X					X
Miscellaneous coatings (F)	X	X				
Rotational mouldings (F)	X					X
Slush mouldings (F)	X					X
Misc. organo-/plasticols (F)	X					
Shoes, soles (F)	X				X	X
Miscellaneous (F)	X					X
Office supply (R)	X		(X)	X	X	X
Printing films (R)	X		(X)	X		
Credit cards (R)	X			X		
Computer disks (R)	X			X		
Other techn. applications (R)	X			(X)		X
Sheets, chemical equipm. (R)	X	X	(X)	X		
Miscell. sheet products (R)	X	X		X		
Miscell. rigid profiles (R)	X	X		(X)		X
Vinyl records (R)	X			X		
Other rigid products (R)	X			(X)		X

F = Flexible PVC Applications - R = Rigid PVC Applications

*Source:* Study for DG XI of the European Commission (B4-3040/98/000821/MAR/E3) – Jan 2000

An overview of EU member states is listed in the following chart on Major Recycling Systems for Post-Consumer PVC Wastes.



Country	Mechanically recycled PVC waste quantities 1997/1998 (1'000 tons)								
	Bottles	Other packaging	Cables	Flooring	Roofing	Pipes	Windows	Others	Total
Austria		0,2	0,3	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	0,8
Belgium		1	0,1	0,2		0,5		0,1	1,9
Denmark			0,9		0,3	0,2		< 0,1	1,4
France	12		1					2,5	15,5
Finland								0,1	0,1
Germany		15	20	1,5	1,5	0,4	3,3	3,5	45,2
UK	1		5				0,1	0,7	6,8
Greece	< 0,1								0,1
Italy	1,6	2,9	3			0,2		0,4	8,1
Ireland									
Netherl.			3			2,7	< 0,1	0,3	6,1
Portugal	< 0,1								0,1
Spain			4,6			1,3		4,3	10,2
Sweden						< 0,1			0,1
<b>Total</b>	<b>14,8</b>	<b>19,1</b>	<b>37,9</b>	<b>1,8</b>	<b>1,5</b>	<b>5,5</b>	<b>3,6</b>	<b>12,2</b>	<b>96,4</b>

Source: ECVN, Member States – 1997/98

#### **A.7.3.h – User Information**

It was agreed that the following text shall appear on the packaging:

**“For more information visit the EU Eco-label web- site:**

**<http://europa.eu.int/ecolabel>”**

The Information appearing on the box 2 of the eco-label logo shall be the following text:

**\* low air and water pollution**

**\* harmful substances avoided**

#### **A.7.3.i – Tetrachlorophenol Limitations**

It was decided to include the TCP under the “Use of harmful substances” criteria:

**“Pentachlorophenol (PCP) and Tetrachlorophenol (TCP) and its salts and esters shall not be used.”**

Verification with test method CEN TC 309 WI 065 - 4.5

Textiles: limit value 0.05 ppm

Leather: limit value 5 ppm.

#### **A.7.3.j – Residues in Final Product – Heavy Metals**

As there’s no EU legislation for Pb and As, it was decided to set the **limit for arsenic, cadmium and lead as not detectable** using the test method CEN TC 309 WI 065-4.3. Then the limit will become lower as the analysis method is being improved.

**A.7.3.k – Fitness for Use**

The criteria table for fitness for use was already agreed during the 2nd meeting according to modifications included in the document CEN TC 309 WI 065 – 4.0:

- Replacement name “children’s” with “school footwear”
- Replacement name “specialist cold” with “cold weather footwear”
- Elimination of the requirement “insoles water adsorption”
- Elimination of the requirement about “abrasion resistance for outsoles” for the categories “fashion” and “infants”
- Elimination of the requirement about “flex resistance for outsoles” for the categories “fashion” and “indoor”
- Addition of a requirement about “outsoles tear strength” with different demand levels for each category
- Addition of a requirement about “colour fastness of the inside of the footwear” with different demand levels for each category

**II.B) – Germany**

Germany remains the largest footwear market in Europe, and after the United States, the second largest footwear market in the world, with a value in 1999 of DM 6.3 billion [USD 3.4 billion]. The market has undergone a 4.7% decline since 1998 and a 25% downturn since 1992. Unlike other markets, such as apparel, the German footwear market does not show any stabilizing or rising indicators. But over the last decade, Germany has also served as a conduit for footwear products into peripheral former eastern European countries.

The local German shoe manufacturing industry is currently suffering from low demand for its comparatively high-priced products. The steady decrease in local production is primarily caused by the comparatively low cost of labor in other countries. While German workers earned an average of DM 22 [USD11] per pair of shoes manufactured in 1999, Portuguese workers earned DM 17 [USD9], and Indonesian workers DM 12 [USD6]. German firms find it increasingly difficult to compete with supplier countries whose lower production costs allows them to bring their products to market at much lower prices. Footwear imported from developing countries, such as China and Vietnam, and from southern European countries, such as Italy and Spain, is highly competitive in the German shoe market, as they are worldwide.

As inexpensive labor has allowed a number of Asian nations to take over large shares of the German shoe market, the competitive strain has forced many German shoe manufacturers out of business or, to move production facilities abroad. While 188 shoe manufacturing operations were registered in Germany in 1993, only 151 existed as of mid-2000, a 20% decrease in the number of German shoe manufacturers.

The “greening“ in German leather & footwear is slower than in textiles sector. To-date, discussion in this sector has been largely confined to human health aspects (e.g. carcinogenic azo dyes and PCP). Environmental aspects (e.g. the replacement of chromium by vegetable tanning) have not yet attracted much attention. Therefore, the Eco-Labeling of footwear is not widespread.

The only official label “SG-schadstoffgeprüft“ is confined to the testing of hazardous substances. Neither environmental and health impacts during manufacturing nor the use of substances such as PVC have been considered so far. However, the planned introduction of a European ecolabel and the existence of the Dutch “Milieukeur” for footwear, the establishment of a “black list” for dyestuffs in footwear manufacture, and calls by consumer associations to prescribe, for example, limit values for the use of PCP substitutes, such as tetrachlorophenole and 2-phenylphenole in leather products, indicate that the “greening” of this product group will presumably continue.

Exporting industries in the footwear sector should therefore:

- Observe new emerging standards in the import market and assess their individual need for technological adaptation at an early stage;
- Assess the environmental soundness of their products against the guidelines of the “SG-schadstoffgeprüft” label, which could most probably become an informal standard;
- Seek an extension of national testing facilities;
- Improve the effectiveness of the national monitoring system for environmental standards in order to build up a credible reputation among their importers.

### *N-Nitrosamines in rubber*

In Germany, the Federal Ministry of Labour and Social Affairs published the TRGS 552 - N - Nitrosamine (Technische Regeln für Gefahrstoffe-Technical rules for hazardous substances) in March 1996 (BarbB1. 3/1996 S. 65; 11/1997 S. 34, 9/1998 S. 79) which states the list of proven carcinogenic N-Nitrosamines established by the Committee on Hazardous Substances (AGS). These referred substances are also among the identified N-Nitrosamines that appear in the European Standard EN 12868:1999, "Child use and care articles - Methods for determining the release of N-Nitrosamines and NNitrosatable substances from elastomer or rubber teats and soothers".

Based in the German regulation, the following text is proposed in order to be incorporated as a new criterion in point 3 of the ecological criteria "Use of harmful substances (up until purchase)"

## *II.C) – France*

### *France’s Stance on Eco-labeling Standards*

On September 5 2001, a leading French business association has urged the European Commission to keep to existing international standards in its drive to integrate environmental requirements into product life cycles.

ICC France - the French national committee of the International Chamber of Commerce - told the European Commission that it would be "very hostile" to the establishment of European standards, since the international ISO standards have proved effective, irrespective of the product concerned.

The French business association was commenting on the Green Paper on Integrated Product Policy adopted by the European Commission in February, which the Swedish EU presidency made one of its environmental priorities.

Taking up the broad debate proposed by the Commission on how to create wealth and competitiveness on the basis of greener products, ICC France said: "At present, international standards make it possible to ensure the integration of environmental requirements in the processes for creating and manufacturing products.

"Enterprises are therefore able to use such standards, while taking into account the specificity of a given product, production requirements and geographical constraints. ICC France insists therefore on the need for international standards so as to ensure that requirements are of the same level, irrespective of the continent where a product is manufactured."

EU Environment Commissioner Margot Wallström has described the Commission initiative as an opportunity for all stakeholders. She said: "It is a way to ensure that the products of the future have a higher value, use less resources and take into account citizens' concerns on health and the environment."

Commenting on the green paper, ICC France noted that corporations are already using methods included in it to ensure that the products they manufacture respect the environment and meet consumer expectations

"Therefore, our member firms support as a matter of principle the implementation of an IPP based on voluntary initiatives by enterprises to reduce the environmental impact of their products."

Since French companies were already operating in conformity with strict laws governing the creation and production of consumer goods, the European Commission should continue to favor non-binding measures in order to preserve the competitiveness on world markets of EU companies, ICC France said.

French business agreed with Commissioner Wallström that the success of an Integrated Product Policy would depend on its being based on the principle of a shared and well identified responsibility of the various parties involved in the life cycle of a given product.

The French business comments included these further points:

- The Commission should look into tax credits or investment incentives as means for spurring environmental innovations.
- Eco-labeling should be of undisputed technical relevance. It would be wise to use labels for products that are not very complex, incorporate few materials and require little processing.
- Standardization of information given to the public would be useful if it were carried out and implemented in an identical manner at world level.
- Environmental criteria for purchases during public tenders must meet the same requirements for relevance and objectivity as those laid down for private transactions.
- Environmental guidelines must leave entrepreneurs free to create, manufacture and market their products.

### *II.E) Japan*

In March 1991, Japan liberalized treatment of footwear imports, setting a footwear quota of 2.4 million pairs per year. In JFY 1993, the quota was set at 6.955 million pairs and raised to 8.34 million pairs in JFY 1994. The JFY 1995 quota was just over 10 million pairs. METI will not confirm that it will continue to expand the quota in the future, but U.S. industry expects continued quota increases of about 20 percent per year. The U.S. Government and U.S. leather and leather footwear industries have been pushing for elimination or further liberalization of the quotas.

In the Uruguay Round, Japan undertook to reduce over an eight-year period tariffs: on under-quota leather footwear (from 27 percent to 21.6 percent); on the tariff category that includes crust leather (from 20 percent to 13 percent); and on other leather categories (from 20 percent to 16 percent). Footwear imported above tariff rate quota levels faces a tariff of 52.3 percent or 4,675 yen, whichever is higher. By 2002, this will drop to 30 percent or 4,300 yen, whichever is higher. In principle, the over-quota tariff rate was reduced 50 percent from the 1994 rate, but the operative tariff is the yen minimum alternative rate. This was reduced by 10 percent over the eight-year period.

The quota has resulted in high quality and high fashion manufacturers in France and Italy taking a large percentage of Japan's leather shoe import market. The American share of the leather shoe market has fallen. Leather shoe manufacturing continues to slowly decline in Japan, while imports of leather uppers grew by 31 percent to 14 million pairs in 1994. Finally, it should be noted that 50 million pairs of non-leather, athletic shoes were imported into Japan in 1994. Most of these were American-branded products manufactured in Asia.

The changing lifestyle of Japanese consumers has pushed up demand for imported leather footwear. Despite the weakening yen and slowing down of the Japanese economy, more and more quality imported leather shoes are entering the country's footwear market.

Japanese consumers are turning towards a more casual and less dressy way of life. Imported footwear, which are usually associated with the ever-popular westernized, casual lifestyle, are playing an increasingly important part in the market. Imports of leather sneakers see a 17% growth in 1996<sup>1</sup>. Casual footwear, including sandals and fashionable pumps, are also popular. In general all kinds of ladies' leather shoes are selling briskly.

In 1996 imported shoes accounted for 65% of Japan's footwear market. A total of 376.2 million pairs of shoes were imported, among which 10.8 million pairs were leather items, and total imports amounted to 332.7 billion yen.

Japan is the easiest market for the Cambodian footwear industry, as it commands a premium in terms of price and quality for exports. In addition, Cambodia also benefits from tax free status for its import of footwear items into Japan. Furthermore, there are no import guidelines for footwear products on environment and health requirements in Japan according to METI (Ministry of Economy, Trade & Industry).

Neither does Japan stipulate much conditions for a variety of chemicals used by the industry in Cambodia such as:

- Hot-Melt Glue
- Latex
- Toluene
- Cleansing Naphta
- Chemical Liquid (Solvent)
- Methylene Chloride (MC)
- Paint

Among the above items, 3 can be checked with 2 being indicated in the laws under METI (For the other 5 items, it was hard to check for METI as such classification was too broad to run proper checks).

There are two laws regulating chemical material under METI.

- (a) Law stipulating assessment of chemical material and regulation of the manufacturing.
- (b) Law stipulating duty to report volume of chemical material in manufacture and import.

As mentioned, there are 3 items specified in the above laws.

- glue CAS No.gelatin 9000-70-8  
glue 68476-37-9 68188-11-4

Glue is not applicable in the above two laws of (a) + (b)

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<sup>1</sup> Hong Kong Trade Development Council (HKTDC)

- Toluene CAS<sup>1</sup> No.108-88-3  
Toluene is the item applicable to the law (b)
- MC (Methylene Chloride) CAS No.75-09-2  
MC is applicable to both laws (a) + (b)

The details of the relevant laws are available in websites, but only in Japanese making it difficult to study further. However, one site is available in English that deals with chemicals used for manufacturing and importation of chemical materials which is: <http://www.safe.nite.go.jp/english/index.html>.

There are other regulations by laws from other Ministries such as Air Pollution Prevention Law from the Ministry of Environment where Toluene and MC are applicable to. No English versions of those laws are available.

No governmental departments contacted had any idea on how to conduct an in-depth study on environmental requirements as there are none in Japan. Though Japan became more conscious of such issues, [sheji](#) still lacks behind EU in terms of regulating this topic through legislation.

### **III/ - Awareness on Issues & Effectiveness of Information Management**

#### ***III.A) From Perspectives of Ministry of Environment – Cambodia***

At national level, there are limited avenues from the government to address comprehensively complex environmental issues. The Ministry of Environment (MOE) has basically taken up a monitoring role only recently on compliance to some criteria laid in 3 *Prakas* (Sub-Decrees regulating technical aspects of implementation of the Law). The ministry conducts quarterly checks at all factories to determine abidance to such regulations.

- Air Pollution & Noise Disturbance<sup>2</sup>
- Solid Waste Management<sup>3</sup>
- Water Pollution Control<sup>4</sup>

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<sup>1</sup> CAS is a common chemical code number used by US authorities

<sup>2</sup> Prakas 42 ANRK.Bk dated July 10, 2000

<sup>3</sup> Prakas 36 ANRK.BK dated April 27, 1999

<sup>4</sup> Prakas 27 ANRK.BK dated April 6, 1999

Nothing detailed was built-in as provisions for adherence to stricter criteria in the primary EU market in terms of types of chemical used.

### ***III.B) From perspectives of ASEAN Framework<sup>1</sup>***

On a sub-regional basis, present ASEAN Development Cooperation Programmes are based on following generic steps through which a regional cooperation evolves:

- a. General exchanges aimed at enhancing the professional cohesion among ASEAN Members and with the Dialogue Partners,
- b. Provision of strategic policy options for ASEAN bodies and Member Countries to accelerate the ASEAN's greater and deeper integration,
- c. Implementation of relatively larger-scale and multi-year activities in the form of programme stream or flagship projects, and
- d. Provision of continued support to implement small prototype project to further advance the more progressive initiatives.

At present the above four generic steps have been fully reflected in the ASEAN development cooperation programmes as follows:

- a. The general exchanges are supported by the various funding schemes such as the ASEAN Fund, Science and Technology Fund, Cultural Fund, as well as a number of exchange and cooperation funds jointly established by ASEAN and its Dialogue Partners,
- b. The provision of policy options is implemented in the three major policy programmes, namely:
  - ASEAN-Australia Development Cooperation Program-Regional Economic Policy Support Facility (AADCP-REPSF),
  - ASEAN-UNDP Partnership Facility,
  - ASEAN-EU Programme for Regional Integration Support (APRIS).

This above shall provide an overview of what ASEAN is doing in terms of joint programs with various governments or institutions and gives a comparison in this respect. Refer to comment made in IV/ Current Adjustment Approach – IV.2 Regional Level.

#### ***III.B.1 - ASEAN-UNDP Programs***

The Association of South East Asian Nations (ASEAN) has a number of joint programs with UNDP namely:

#### **ASP 5: Economic Cooperation and Outward Looking Regionalism**

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<sup>1</sup> Association of South East Asian Countries of which Cambodia is a member since 1999

Since 1992, the ASEAN Secretariat has been the executing agency for the UNDP's ASEAN Sub-regional programmes, under the UNDP's Regional Bureau for Asia and the Pacific with assistance from the UNDP country office in Jakarta, Indonesia.. The ASEAN-UNDP Sub-regional Programme for the Fifth Cycle (1992-1996) was the first attempt to develop a thematic and programmatic framework for UNDP technical cooperation with ASEAN. The ASP-5 provided technical assistance in five sub-programme areas i.e. Trade and Investment Liberalization; Institutional Capacity Building; Human Resource Development; Trade and Environment; and Science and Technology.

In the early 1990's, there was a major effort to revitalize ASEAN regionalism in a process intended to support a broader opening of these economies with respect to the global economy. The objective was to strengthen the region's position as an export platform well integrated with the world economy, to strengthen its position vis-à-vis other developing countries in the competition for foreign direct investment and to prevent the region being left out in a widespread move towards regional preferential trading arrangements in many other parts of the world. A proposed ASEAN Free Trade Area (AFTA) became the focal point of economic cooperation within the ASEAN region.

ASP 5 supported ASEAN as the region took dramatic steps towards 'open regionalism', i.e. using the regional integration process to develop a more competitive and open regional economy. Almost half of a funding level of \$5.8 million was allocated to: supporting ASEAN's regional trade liberalization under the ASEAN Free Trade Agreement (AFTA); efficiently implementing the Common Effective Preferential Tariff System (CEPT); beginning the process of identifying and working to moderate non-tariff barriers to regional trade; supporting the development of a region wide ASEAN Investment Area (AIA); and helping to establish an ASEANWEB with a rapidly expanding coverage of numerous areas of ASEAN cooperation.

The heavy weight given to the ASEAN Free Trade Area (AFTA) and related ASEAN Investment Area (AIA) in the ASP 5 program was in line with the main thrust of ASEAN regional integration efforts. These efforts in regional cooperation to plan, agree on and to begin implementing a key element of a consistent policy environment for trade and investment across the whole region put ASEAN economic cooperation on a completely different level. Much of the work in this core area of 'regional integration' was carried out by the ASEAN secretariat under funding by UNDP.

#### **ASP 5 – Program Components by Funding Level**

<b>Program</b>	<b>Funding (US\$)</b>	<b>Percentage</b>
<i>ASP 5</i>	<i>5,800,000</i>	<i>100</i>
Liberalization of Trade and Investment	2,474,525	43

Capacity Building	1,540,400	27
Human Development	895,550	15
<b>Trade and Environment</b>	<b>514,375</b>	<b>9</b>
Science and Technology	475,150	6

Source: ASEAN Secretariat – Jakarta (Indonesia)

### **UNDP-ASEAN Consultation and Dialogue**

Two ASEAN-UNDP events held in October 1996 in Kuala Lumpur were additional testimonies to the much strengthened dialogue mechanism between the two entities. The first meeting of the Joint Management Committee (JMC) took place, attended by the ASEAN Directors-General, the ASEAN Secretariat and UNDP. This achieved a prompt and effective resolution of all outstanding implementation issues of the ASEAN Sub-regional Programme for the Fifth Cycle (ASP-5). The First Meeting of the ASEAN-UNDP Dialogue also took place, co-chaired by the Secretary-General of ASEAN and the UN Assistant Secretary General and Director of the Regional Bureau for Asia and the Pacific. As the first formal dialogue session between the two Dialogue Partners, this meeting was historically significant: it gave both parties the opportunity to cordially exchange their views outside the framework of the sub-regional programmes. Respective goals and priorities, current issues and possible areas for future collaboration were among the issues discussed.

For the next phase of the UNDP-ASEAN Partnership, it was agreed that the UNDP would fund a policy-oriented project or facility that would focus primarily on deepening regional integration was the best vehicle for future ASEAN-UNDP collaboration. The facility would help capture emerging issues, particularly given the current changes taking place in the region. The purpose of the facility is to strengthen ASEAN's capacity for exploring policy options in terms of deepening regional integration.

### **Environmental Issues Dealt By ASEAN**

#### **ASEAN Projects On Environmental Issues**

ENVIRONMENTAL REQUIREMENTS IN KEY MARKETS - FOOTWEAR INDUSTRY CAMBODIA

Project ID	Project Title	Year
AGF/99/046	**Common Position on Selected Environmental and Conservation Issues Related to Trade in ASEAN Agricultural & Forestry Products	1999
AGF/99/026	**Minimization of Pesticide Use to Improve the Marketability of Agriculture Products and to Prevent Environmental Degradation	1999
CIN/96/002	Exchange of ASEAN Archivists - The Archives building in ASEAN Countries: The Environment Facing the 21st Century	1996
CIN/95/013	ANEX Workshop/Attachment Programme for Environment Reporting	1995
CIN/95/022	Workshop on Strategy of Effective Programming of Environmental Broadcast	1995
ENE/02/004	Training on Small Scale Product Processing Unit (SPPU) Utilizing Environmentally Friendly Renewable Energy and Local Resources	2002
ENE/02/010	Underground Coal Mine Training (Coal Mine Safety Training, Environment Coal Mine Training, Coal Resources Assesment and Development Training)	2002
ENV/03/001	ASEAN Senior Officials on Environment Consultation Visit to Republic of Korea	2003
ENV/02/003	A Study for the Establishment and Operationalisation of an ASEAN Emergency Responce and Strategic Planning Institute for Environmental Disasters	2002
ENV/01/001	JAEP - Regional Coordination for Integrated Protection and Management of Coastal and Marine Environment	2001
ENV/01/008	ASEAN-EU Workshop on the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol Submitted by the ASEAN Working Group on Multilateral Environmental Agreements (AWGMEA)	2001
ENV/01/009	East Asia and Pacific Environment Initiative (EAPEI)	2001
ENV/99/007	Harmonisation of ASEAN Environmental Databases & the Publication of the 2nd ASEAN State of the Environment Report	1999
ENV/99/009	JAEP - Feasibility Study on the Establishment of an ASEAN Centre or Network for Environmentally Sound Technologies	1999
ENV/99/017	<b>Establishment of an ASEAN Centre or Network for the Promotion of Environmentally Sound Technologies</b>	1999
ENV/98/001	ASEAN Environment Year 2000	1998
ENV/98/002	ROKSCF - ASEAN Environment Awards	1998
ENV/96/002	AF - Development of Techniques for Promoting Environmental Awareness among Specific Target Group	1996
ENV/96/003	HSF - ASEAN Training Courses in Conservation Biology and Environmental Education	1996
ENV/96/006	HSF - ASEAN Environmental Education Action Plan	1996
ENV/95/004	Regional Training Programme on Integrated Environmental Education into Several Subject Matters for Primary School Teachers	1995
ENV/95/005	Workshop on Institutional Structure and Legislative Framework for Environmental Management and Protection for ASEAN Countries	1995
INV/99/016	Publications on ASEAN Investment Environment	1999
INV/99/021	Promotional Video on Investment Environment in the ASEAN	1999

	Investment Area	
INV/95/008	Joint Publications on Investment Environment and Opportunities in ASEAN (Biennial Joint Publication of ASEAN Investment Agencies)	1995
SCD/95/007	Study on Rural Youth Participating in Preserving Environment through Land and Water Conservation, Cattle Fattening and Solar Oven Development	1995
SCD/95/010	Workshop/Seminar on Role of Youth in Environment and Energy Conservation	1995
SCD/94/011	ASEAN Environmental Youth Camp	1994
SCT/99/012	ASEAN-Canada Cooperative Programme on Marine Science-Phase III Coastal and Ocean Environmental Management for Economic Development, Human Health Protection and Resource Sustainability in ASEAN	1999
SCT/97/010	ASEAN-Canada Sustainable Management of Natural Resources and the Marine Environment	1997
SCT/97/015	Workshop on Investigating of Resources & Ecological Environment by Remote Sensing and GIS (Geographical Information System) in LanCang - Mekong River Basin/ASEAN-China Workshop on Remote Sensing Cooperation	1997

Source: ASEAN Secretariat – Jakarta (Indonesia)

### **III.B.2 – ASEAN-EU Programs**

Based on the ASEAN-EU Program for Regional Integration Support (APRIS), program stream and flagship projects are currently implemented in so far only following program:

- ASEAN-German Forestry Program.

This highlights no sufficient “relevant” joint programs were conducted to address the issues at stake here.

## **IV/ - Current Adjustment Approach**

Looking now at various levels of approach taken to respond to such environmental & health requirements in key export markets like EU, one could draw following conclusion:

### **IV. 1. National Level**

Basically, pertaining to the quality evaluation footwear for say Cambodian footwear imported into the EU market, one can classify it into 3 categories :

1. Labeling: according to the Directive 94/11/EC on labeling of the materials used in the Main Components of Footwear. it will be required to have the testing to identify the component material for labeling purpose. This is still the latest standard for labeling.

2. Restriction of Harmful Substances: in EU, there are various types of harmful substance being banned or restricted in a minimum level of usage, such as Azo Dye, Nickel, Pentachlorophenol, Cadmium, Formaldehyde and Chromium (VI). Customers will require the suppliers to guarantee the goods are complying with the laws & regulation and relevant tests will be performed.

Though these chemicals are restricted by law, it is up to the manufacturer or retailer or importer to decide whether testing is required to monitor the quality for due diligence purpose.

3. Performance evaluation: some retailers or buyers will establish their own quality requirements to ensure their products are maintained at or above the acceptable quality level, such as the bonding strength of the sole to the upper material, the flexing resistance of the upper material or soling material, heel attachment strength, color fastness properties of the upper and lining materials...etc. Various customers will have their own selection guidelines. This part is not mandatory and on voluntary basis.

Apart from the above, Safety Shoes are also required to be evaluated and certified to comply with various EU Protective Directives. Different parameters will be tested than the above such as impact resistance, resistance to fuel oil, resistance to hot contact, hydrolysis of PU outsole, compression resistance...etc.

Upon completing the manufacturing process, factories would dispatch random samples to mostly Hong Kong or Taiwan testing centers for Due Diligence testing of merchandise throughout the buying and selling life cycle. Following tests are conducted to evaluate the essential constructional properties namely:

- ❑ sole bond adhesion strength,
- ❑ seam strength,
- ❑ heel attachment,
- ❑ flex cracking,

Other footwear services include Wear Tests, Fit Assessment and Safety Footwear Testing comprising of:

- Novelty Slipper Testing according to the Toy Safety Regulations EN71
- Assessment of Washable Footwear
- Testing of Hazardous Toxic Chemicals such as; banned Azo dyes, PCPs and PCBs, Formaldehyde, Allergens and Irritants
- Litigation Services and Technical Advice

Apart from materials compliance to EU market, all factories received periodical inspections from the Ministry of Environment for abidance to the 3 criteria<sup>1</sup> set by the Ministry for all manufacturing plants in country.

#### ***IV.2 – Regional Level***

Environmental issues dealt by ASEAN though numerous, none addressed the issue we are looking at in this study, e.g. educate manufacturers in general on strong emergence of Green Consumerism in Europe.

Possible actions could be taken towards addressing the need to getting more familiarized with such Eco-Labeling aspects through the ASEAN various channels with partners.

## **V/ - Elements of pro-active Approach & Need for Institutional Capacity Building**

### **V.1 - Global Trend of Footwear Trade**

With a 2005 perspective, some industry consultants recently identified the following six drivers for change in the footwear industry:

- quality,
- customer satisfaction,
- demographic trends,
- environment,
- costs
- production methods.

Footwear sales would have considerable growth, more elderly people would determine market needs, Sourcing and brands would predominate, zero defects would be the "real" goal and additional legislation could be introduced related to product safety. Gonzalez-Quijano from Cotance predicted that the key issue in the future to move towards sustainable development and increasing market shares and trade in the leather industry would be related to a socio-environmental performance concept that should provide answers to the following questions placed by consumers:

- Under which conditions products were/ are made?
- How environmentally friendly is/ was the use of chemicals and the management of resources in the different segments of the leather value chain?

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<sup>1</sup> Air Pollution Control & Noise Disturbance; Water Pollution Control; Solid Waste Management

Proper answers to these questions will require from industry the application of acceptable environmental and social strategies and programs and the development and application of benchmarking, social mapping of labor conditions and practices prevailing in factories and workshops around the world. Industry associations and industrial development support institutions should undertake this work. To face increasing competitive pressures the footwear supply chain will have to respond to customers demand. A customer-value business is proposed for the shoe industry in the new millennium in which solutions would no longer be developed by industry and distributors without consulting the customer<sup>1</sup>.

### Development and Trends; Demands to Process Engineering and the Chemical Industry

Industrial Production	Demands in Process Development for Leather Manufacturing	Demands to the Chemical industry
<p><b>Industrial Structure</b></p> <p>Mergers and joint ventures; continuous globalization in automobile leather manufacture. Greater segmentation of work; Manufacture of wet blue in hide producing countries; Concentration of finishing industries near manufacturers of leather articles.</p>	<p>Processes that can cover defects in raw hides;</p> <p>Processes requiring lower water consumption and the possibility of water recycling.</p>	<p><b>Tanning</b></p> <p>Alternative tanning systems based on scientific understanding of the molecular phenomena.</p>
<p><b>Raw Material</b></p> <p>Shortages and loss of quality; Greater use of finishing chemicals to improve quality, increase availability of high performance chemicals.</p>	<p>Replacement of chrome tanning and safe elimination of chrome during leather production;</p>	<p><b>Softening</b></p> <p>Leather softening without using fats and oils.</p>
<p><b>Input Costs</b></p> <p>Prices of raw materials will increase; Differences in labor costs will persist.</p>	<p>New finishing systems</p>	<p><b>Dying</b></p> <p>Uniform leather dying, fixing and penetration.</p>
<p><b>Technology</b></p> <p>No key developments. Machinery manufacturers are already</p>	<p>Improved, less costly wet-white tanning. Alternative organic</p>	<p><b>Washing</b></p> <p>Improved washing properties in leather articles</p>

<sup>1</sup> Report by G.M. Colletta, May/June 2000

<p>introducing improvements.</p> <p><b>Environment</b></p> <p>Increased pressure towards the use of environmentally friendly chemicals</p>	<p>tanning methods</p>	<p>leather articles.</p> <p><b>Shape and Surface</b></p> <p>Greater stability in leather shape and surface with emphasis on leather for automobile and upholstery.</p>
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*Source:* Dr. Taeger, Globales, Marketing Leader, BASF, in: L. Vila, BASF, “Status and Outlook of the Leather Industry in the New Millennium”, Round Table on the Leather Industry, Bologna, May 6 2000.

Predictions made on global changes to take place by 2010 in the footwear industry indicate a continuation of the present concentration of manufacturing in developing countries unless costs of sourcing from distant countries rise significantly and localized markets re-emerge. Southeast Asia will continue to play a dominant role in the global production of footwear with China contributing 40%. The concentration of production in this region may be affected by environment and social production conditions as well as by the imposition of quotas. Increases in production in South America may be expected. The monetary union in Europe may further polarize footwear manufacture in the southern regions and borders of Europe.

Branding will continue to be important not only in sport shoes. Sourcing companies and agents will continue to gain strength and will have greater influence in the entire supply chain including design, specifications, the production process and the implementation of quality systems and partnerships with suppliers with increased sharing of information.

### **Conditions for Success in Footwear Companies Operating in the Present Decade**

Successful footwear companies interacting in the different components of the supply chain of the future (design, manufacturing, materials and components, sourcing, marketing and distribution) should have a global vision of the industry and the competing marketing strategy should:

- have a good understanding of the market competitors and agents
- maintain a sound knowledge of consumer and fashion trends
- be able to monitor the drivers of change (at present, environmental legislation, materials
- strive for continuous development for comfort and durability
- incorporate information technology into manufacturing and market analysis operations
- be successful in promoting market alliances in the supply chain
- engage staff with vision and entrepreneurial skills, provide
- training and
- introduce modern management practices

## V.2 – Suggested Action Plan

Like its sister industry in the garment, the footwear sector in Cambodia is purely a “contract manufacturing” facility ground for regional firms and direct sourcing, sales & marketing functions are all performed in the Head Offices of those regional corporations, mainly in Taiwan or Hong Kong. Thus the Head Offices would deal directly with buyers leaving factories in Cambodia as mostly manufacturing centers.

Furthermore, as all manufacturing facilities are foreign owned (mainly Taiwanese), there is not much a sense of “national belonging” so to speak and issues touching the country’s ability to compete in future are not pressing. It is well known that worldwide garment and footwear industries are “foot lose” people who can easily pack and go to any place offering better production cost and incentives. Therefore they do not bother much about “improving” any local standards... The leading Garment Industry of Cambodia faces similar problem in the run-up to post ATC era, when quota free sets in by January 2005.

Alternatives to develop ancillary activities for this industry remain slim considering the country’s poor shape of infrastructure and high cost of production. Substantial hidden cost exists throughout the logistics chain<sup>1</sup>. Coupled with that, Cambodia only produces latex in raw form (unprocessed) and does not possess adequate light industry.

### Benchmarking Transport and Import Clearance Charges Between Cambodia and Selected Countries (40 Foot Container)

	<b>Cambodia</b>	<b>Hong Kong</b>	<b>Malaysia</b>	<b>Sri Lanka</b>	<b>Madagascar</b>
Trucking	\$ 160	\$ 210	\$ 130	\$ 71	\$ -
Customs	\$ 285	\$ -	\$ -	\$ 4	\$ 50
Lifting	\$ 118	\$ -	\$ -	\$ 73	\$ 25
Terminal handling charges	\$ 100	\$ 330	\$ 166	\$ 285	\$ 247
Documentation	\$ 15	\$ 15	\$ 13	\$ -	\$ 35
Container scanning	\$ 80	\$ -	\$ -	\$ 30	\$ -
Other expenses	\$ 100	\$ -	\$ -	\$ 21	\$ 10
<b>TOTAL</b>	<b>\$ 858</b>	<b>\$ 555</b>	<b>\$ 309</b>	<b>\$ 484</b>	<b>\$ 367</b>

Probably due diligence survey on institutional capacity building could be envisaged with adequate technical assistance grant by various parties under the Integrated Framework concept would help the government to identify clearly the necessity for improvement for the next lap.

Some critical aspects to consider as priority for the industry consist of:

<sup>1</sup> World Bank Analysis on “Value Chain for Cambodia” - 2003

- ❑ SWOT analysis of the sector concerning future competitiveness factor of the industry in a global playing field and coming up with an action plan accordingly which could envisage following;
- ❑ Mechanism to network with regional footwear associations for exchange of ideas and possibilities to seek a regional common voice like its sister garment industry
- ❑ Study mission to learn how regional footwear industry handle such environmental requirements in common export markets
- ❑ Improve sourcing alternatives in the region for logistics and cost purpose (in line with forthcoming implementation of AFTA –ASEAN Free Trade Area--)

Finally on environmental aspects, The EC-Cambodia Country Strategy Paper 2000-2003 was agreed with the Royal Government of Cambodia and approved by the ALA Committee in year 2000. Although the present National Indicative Program covers a period which exceeds the period of the CSP by one year, it can be expected that the main priority sectors for EC co-operation with Cambodia will remain the same.

The EC has identified the need to inter-link trade policy and development policy in order to achieve objectives related to poverty reduction. Thus, in line with the EC development cooperation objective of poverty reduction, activities in support of the integration of Cambodia into the world economy will be important in the forthcoming years.

The concern for the environment will be mainstreamed into all EC development co-operation activities in Cambodia. In preparation of programs or projects, Environmental Impact Assessment (EIA) should be undertaken where appropriate. The Institutional Support Program already under preparation will provide Technical Assistance to the Ministry of Environment and the TA should, in addition to other tasks, assess the need for additional EC support to assist Cambodia to enhance its capacity to undertake Environmental Impact and Strategic Environment Assessments and other activities aimed at pursuing sustainable development.



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