JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF INDUSTRIAL DEVELOPMENT
THE DEMOCRATIC SOCIALIST REPUBLIC OF
SRI LANKA

MASTER PLAN STUDY

FOR

INDUSTRIALIZATION AND INVESTMENT PROMOTION

IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

(Phase II)

APPENDIX-II

D. Apparel Industry

E. Leather Industry

July 2000

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
(UNIDO)

The apparel and leather sectors together deliver in Sri Lanka nearly 40 percent of the country's manufacturing value-added. The garment industry alone accounts for more than six percent of GDP; it provided in 1999 some 330,000 jobs, and earned slightly over US$2 billion of foreign exchange. It is by far the most successful exporter of the country.

However, both industries are poised to face considerable challenges in the years to come: environmental degradation, punitive processing losses and a narrow supply of quality hides in the leather sector, and in the garment industry, the anticipated phasing out, by 2005, of export quotas when the Multi-Fiber Agreement will cease to exist.

Pre-emptive measures must be taken today to consolidate and develop the competitiveness of these two vital industries, and the Master Plan for Industrialization and Investment is but one significant step to that end. UNIDO is proud to have been invited by the Ministry of Industrial Development to contribute to the exercise the strategic review of the garment and leather industries.

The completion of this exercise also marks the success of a pioneering cooperation venture between JICA and UNIDO teams of experts, and sets a milestone for future joint programmes drawing from the best resources of our two institutions.

It is, finally, a defining moment for UNIDO's activities in Asia: indeed, the two studies represent the very first output of the Integrated Programme of Technical Assistance to Sri Lanka, which was itself the first such programme that we approved in the region, and the first to start execution. Together with the Ministry of Industrial Development and our JICA partners, we are strongly committed to the successful implementation of the Master Plan for Industrialization and Investment in Sri Lanka.

Carlos A. Magariños
Director-General

APPENDIX-D

APPAREL INDUSTRY

D. APPAREL INDUSTRY

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D. APPAREL INDUSTRY

1. OVERVIEW OF APPAREL INDUSTRY

1.1 Background

The Sri Lankan apparel industry is of considerable importance to the manufacturing industry in terms of output and employment. The survival and the further development of this industry are vital for the economy. Consequently, the Master Plan for the apparel industry takes a high priority in the industrial development of the country.

After the change in the general economic policy in 1977 towards an open economy and from import substitution toward export orientation, the first apparel enterprises started operations in a small scale (≥ 10 sewing machines). From the very beginning local entrepreneurs sensed the opportunities in the apparel business, primarily for export to the USA, and invested the available scarce financial resources into building up operations. The introduction of the Export Processing Zones (EPZ) in the late 1970s facilitated the growth of apparel industry.

One of the basic supportive developments for the origin and the growth of the Sri Lankan apparel industry was the Multi-Fiber Arrangement[1] (MFA) that introduced a quota system for exports of textile and apparel products to developed countries, mainly to the USA and the EU[2]. The government of Sri Lanka was able to negotiate favourable quotas and was successful in creating a positive environment for its growth.

In the early 1980s, the industry grew rapidly; some enterprises became large and many newcomers started operations hoping to emulate the success of the initiators. At the end of the 1980s large American, British, and German garment manufacturers discovered Sri Lanka as a suitable country for apparel manufacturing. The main criteria for starting operations were the abundant and cheap labor and the favorable investment climate for foreign investors (incentives and risk limitations). Several companies built their own factories, mainly in the Colombo region, and others started joint ventures with local entrepreneurs. In the early 1990s

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[1] The origins of the MFA go back a long way. In the 1930s UK and USA used measures to limit the growing textile exports from Japan. In the early 1960s bilateral agreements were arranged to limit the exports of cotton products from the LDCs to the developed countries. In 1974 the MFA-I started replacing the old agreements and a quota system based on volume growth was introduced. The MFA-II followed in 1978, MFA-III in 1982 and MFA-IV in 1986. The current MFA was reached at the end of 1993 under the GATT Uruguay Round maintaining volume restrictions (quotas) for vulnerable products. The MFA should phase-out end 2004 following the GATT intentions; however, it is unlikely to have all the restrictions removed from January 2005.

[2] Until December 1994 named EEC

the investments increased rapidly with growth rates above 100% p.a. Some companies expanded by opening new factories and diversifying the product range. In the second half of the 1990s, the growth rates went down due to the fierce competition of new countries like China and Bangladesh, which also built an efficient apparel industry.

The available information on the Sri Lankan apparel industry is, by the standards of developing countries, of a high standard and the sources are also reliable. For the analyses, statistical data were made available by the Central Bank of Sri Lanka, Textile Division of the Ministry of Industrial Development (MID), the Sri Lanka Customs and the several associations of this industry, mainly the Sri Lanka Apparel Exporters Association (SLAEA). In addition, UNIDO carried out a representative survey with a sample of 115 apparel enterprises based on a structured questionnaire and face-to-face interviews. 104 questionnaires were fully utilized.

The apparel industry (ISIC 322) manufactures ready-made garments using primarily textile materials, woven and knitted fabrics, and accessories. Furthermore, leather garments are included in this industry. The industry uses two main classifications: the kind of garment, *i.e.* outerwear, and underwear, and the type of end consumer, i. *e.* men & boys, women & girls and children. Other apparel products like shoes; leather products like bags, belts and accessories like labels do not belong to the apparel industry in the ISIC 322 definition. Also all made-up textiles (cut and sewn) are part of the textile industry (ISIC 321) and not of apparel. However, the aggregate industrial statistics (ISIC 32) include all leather, textile, and apparel products (LTA industry).

1.2 Structure

The table below shows the magnitude and the importance of this industry for Sri Lanka. 891 establishments (industrial production units or factories) are in operation. Considering that many companies have more than one factory it is estimated that around 650 apparel companies work in this sub-sector. Very small-scale ($\leq$ 10 employees) establishments or micro-enterprises that usually produce tailor made garments for the local market are not considered to be part of this industry. The apparel industry, in relation to output and employment, is by far the largest manufacturing industry in Sri Lanka. The GVA ratio of 68% is in line with the value in other developing countries (in the EU: 55 to 60%). The GVA per worker expressed in convertible currency is around 4,900 USD/employee. This is low – in the

developed countries it reaches 20,000 to 30,000 USD/employee – but is in line with the other South Asian apparel manufacturers.

Basic Indicators of Apparel Industry (1998)

Number of establishments	Employment	Output (million Rs.)	GVA (million Rs)	GVA ratio %	GVA per worker Rs.
(1)	(2)	(3)	(4)	(4)/(3)	(4)/(2)
891	328,000	167,000	113,000	67.7%	344,512

Source: MID and UNIDO, 1999

Apparel enterprises

The definition of an enterprise is: a factory or establishment as a production unit irrespective of whether this factory belongs to a single company with only one factory or to a larger group with several factories in the country. Each factory in Sri Lanka is relatively self-sufficient: it processes the raw material, fabrics, and accessories, to a ready-made garment. Only in large companies, functions such as marketing and administration are centralized.

Up to 1996, the number of enterprises grew rapidly. Over the last few years the number remained constant, the size however increased. The number of enterprises by size is as follows:

Distribution of Factories by Size

Size	Number of employees	Number of factories
Small	0 - 100 employees	282
Medium	100 - 500 employees	445
Large	501 - 1000 employees	131
Extra large	over 1000 employees	33
TOTAL		891

Source: MID and TQB, 1998

As shown in the next graph most of the enterprises are medium size. Only one third are small. This is not typical for an apparel industry. The main reasons for this are:

- The strong volume orientation of the Sri Lankan industry with a high number of pieces per style. This requires a sufficient size to allow an acceptable throughput time.

- The low degree of subcontracting from large companies to smaller units. In other countries hundreds of smaller factories work for other companies with minimal administration and without any marketing activities of their own.

- The "200 – Garment Factories Program" of the 1980s and the new "50 Garment Factories Program" give incentives only to factories that create larger employment.

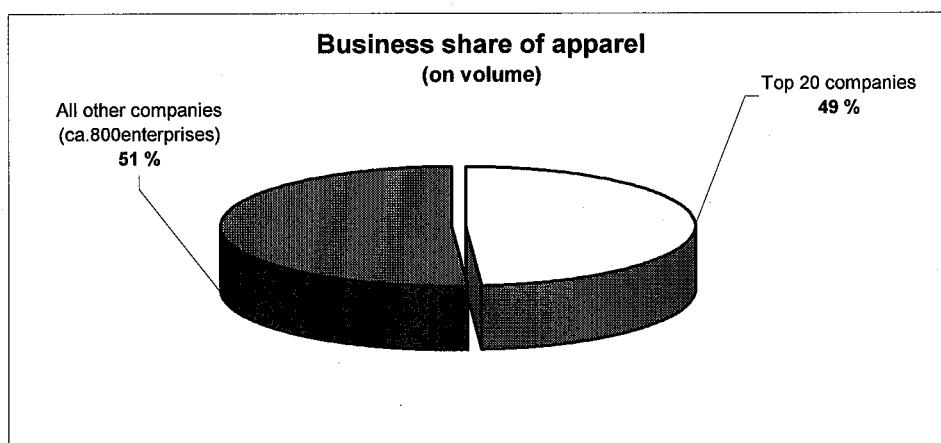### Distribution of factories by size

- Small   0 - 100 employees
- Medium   100 - 500 employees
- Large 501 - 1000 employees
- Extra large over 1000 employees

15%   4%   32%
49%

Source: MID, 1998

Business share of apparel
(on volume)

All other companies (ca.800enterprises) 51 %

Top 20 companies 49 %
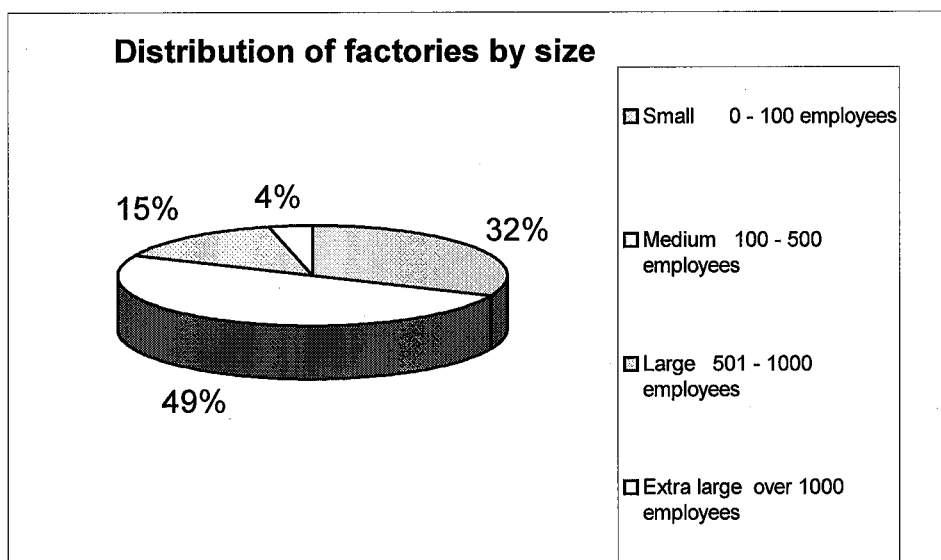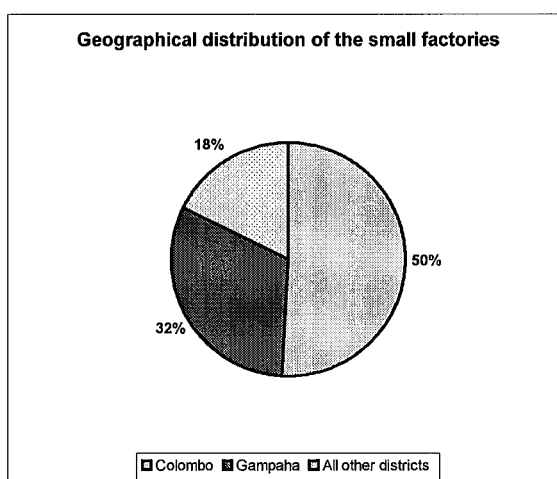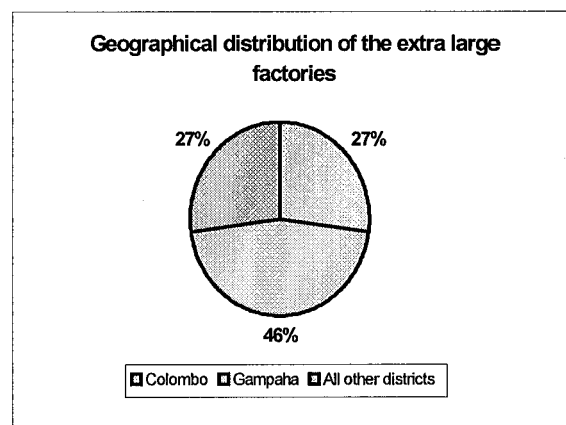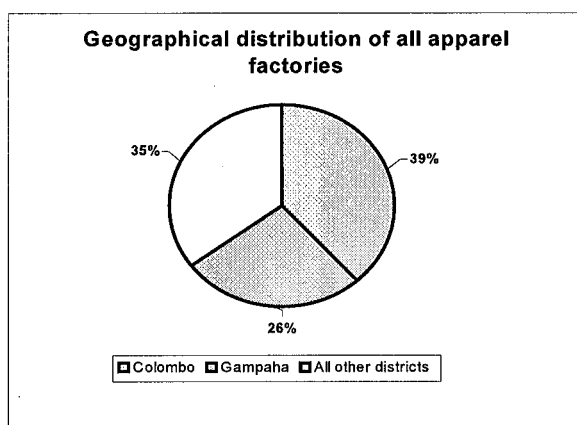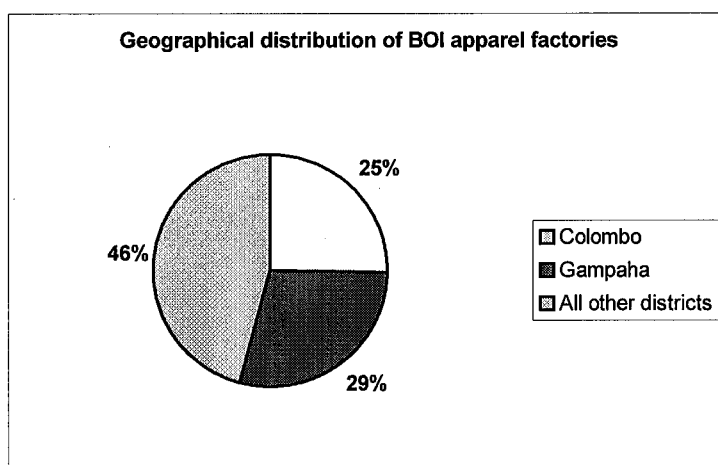
Source: UNIDO estimations, 2000

There is a high concentration of the business in the large enterprises. A recent study shows that the top 20 enterprises with nearly 100 factories manage 49% of the garment business.

The apparel factories are concentrated in the greater Colombo region (Colombo and Gampaha districts). Before the start of the "200 Garment Factories Program", nearly all the factories were concentrated in this region. This Program forced a geographical distribution into other districts. The extra large companies welcome the incentives of the Program and opened new large factories outside greater Colombo. Currently only 27% of the extra large factories are located in the Colombo district and 46% in the Gampaha district, many of them in the Export Processing Zones (*e.g..* Katanayake), 27% are located in other districts other than Greater Colombo. The distribution of the small factories is completely different: 82% of these factories are located in the Colombo and Gampaha districts. These factories were not able to take advantage of the "200 Garment Factories Program" and remained in the traditional apparel region.

Geographical distribution of all apparel factories

35%   39%
26%

☐ Colombo   ☐ Gampaha   ☐ All other districts

Geographical distribution of the extra large factories

27%   27%
46%

☐ Colombo   ☐ Gampaha   ☐ All other districts

Geographical distribution of the small factories

18%
50%
32%

☐ Colombo   ☒ Gampaha   ☐ All other districts

The Board of Investment (BOI) of Sri Lanka, which was earlier known as Greater Colombo Economic Commission (GCEC), has its origin in 1978; and it was reconstituted in 1992 when the current name was adopted. The BOI is structured to function as a central facilitation point for local and foreign investors. BOI offers a differentiated scheme of incentives. Mainly the medium size and large companies used the BOI facilities. In 1998, 492 enterprises (55% of the total) were BOI factories. Following the BOI policy to assist the industrialization of the country outside the Colombo and Gampaha districts, the geographical distribution of the BOI and non-BOI factories became very different. As shown in the graphs below 46% of the BOI factories are located up country while non-BOI enterprises are mainly concentrated in the Colombo and Gampaha districts (78%).

Geographical distribution of BOI apparel factories

- □ Colombo
- ▥ Gampaha
- ▤ All other districts

25%
46%
29%

Source: MID, 1998

Geographical distribution of non BOI apparel factories

- □ Colombo
- ▥ Gampaha
- □ All other districts

22%
23%
55%
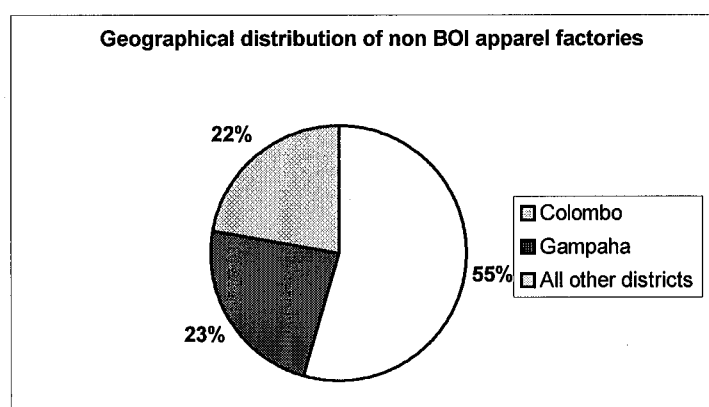
Source: MID, 1998

BOI initially offered many advantages to investors willing to build up new apparel factories. In the last few years the government gradually extended several of the BOI facilities and

incentives also to non-BOI enterprises. Now through the "200 Garment Factories Program" and the "50 Garment Factories Program" the apparel enterprises enjoy more or less the same facilities and incentives.

Employment

As mentioned before the apparel industry is the largest industrial employer in Sri Lanka. Since many years ago, employment increased every year. The table below shows the development over the last years. In 1998, the average employment was 368 employees per enterprise, a very high number in comparison to other countries. Leaving apart employment in the large enterprises, the average employment within the SMEs is approximately 180 employees/enterprise.

Employment in Apparel Industry

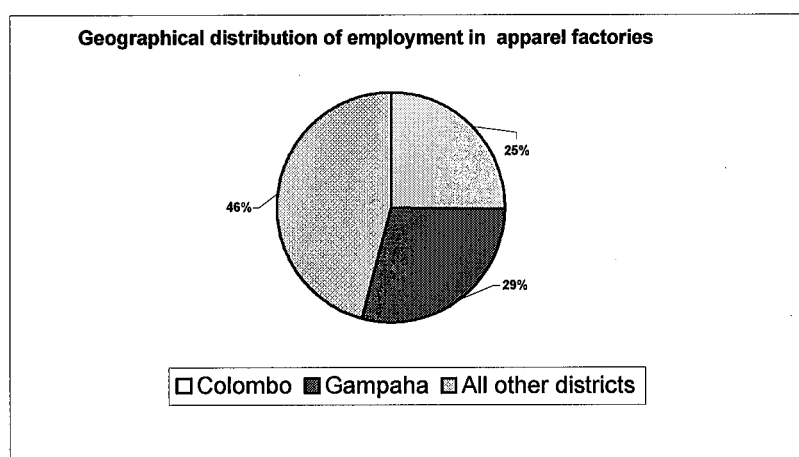| Year	Employees	Growth rate
1995	261,866	
1996	271,537	3.7%
1997	281,293	3.6%
1998	328,000	16.6%

Source: MID and TQB, 1999

The geographical distribution of employment as shown in the graph below indicates a completely different picture of the distribution of the enterprises. Only 25% of the employees are working in the Colombo district, 46% are employed outside Colombo. This is the result of the move of the large companies out of Colombo and Gampaha following the "200 Garment Factories Program" mentioned above. It is assumed that the number of employees in Colombo did not increase during the last years. New employment was created primarily outstation and in the suburbs of Colombo. Enterprises reported that in Colombo there is shortage not only of skilled labor but also of other labor interested in being employed in the garment industry.

The table below shows that the large enterprises have a higher percentage of unskilled workers than the SMEs. These employees do very simple work like trimming and transport in the factory. The ratio of technicians and supervisors in the SMEs is clearly lower than in the LE; this might affect productivity and quality.

Total Surveyed Employment by Skills and Size

	Large Enterp.	%	SME	%	Total
Unskilled	16,605	30.9	7,153	24.7	23,758
Skilled	29,381	54.7	19,199	66.4	48,580
Technicians	1,866	3.5	396	1.4	2,262
Supervisors	3,313	6.2	939	3.3	4,252
Engineer/designer	91		97		188
Middle manager	1,060	4.7	732	4.2	1,792
Senior manager	348		322		670
Sales/marketing	1,090		95		1,185
TOTAL	53,754	100	28,933	100	82,687

Source: UNIDO survey, March 2000

Geographical distribution of employment in apparel factories

46% 25% 29%

☐ Colombo ▨ Gampaha ▨ All other districts

Source: MID, 1998

## 1.3 Production and Inputs

Apparel in relation to other industries

The apparel industry is a significant sub-sector not only from the viewpoint of creating employment, but is also for the whole economy of the country. The graph below shows that the contribution to GDP increased from 2.5% to almost 7% during the last 16 years. The weight of the apparel industry in the GDP is substantial.

Contribution to the GDP
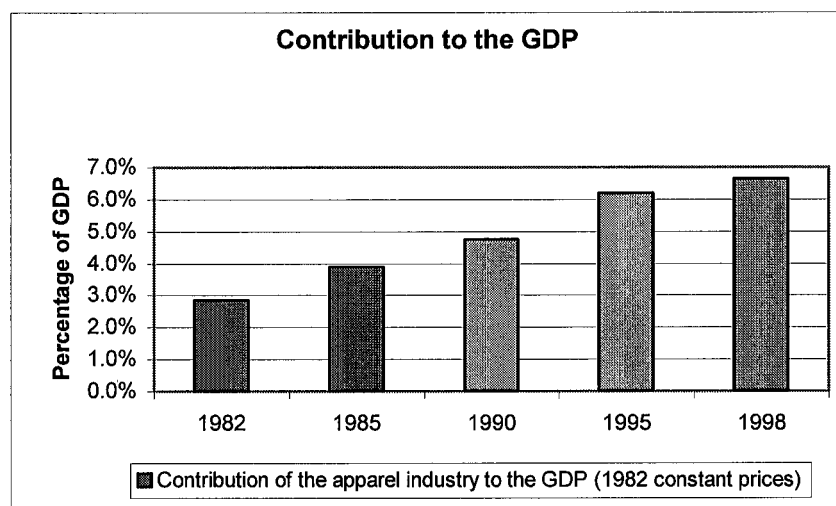
Source: Central Bank, 1999

In 1998, the value of the total industrial production in Sri Lanka was Rs. 363 billion. The value of the textile, apparel, and leather (TAL) was Rs. 160 billion. Within this industry group, the apparel industry plays a predominant role. The next graph shows the ratio of TAL to the total industrial production. Since 1992 there was a slight increase from 40% to 44%. This percentage clearly shows the predominance of this sector for the economy of the country. However, also other industrial sectors like food and chemicals increased rapidly.

Share of TAL to total industrial production
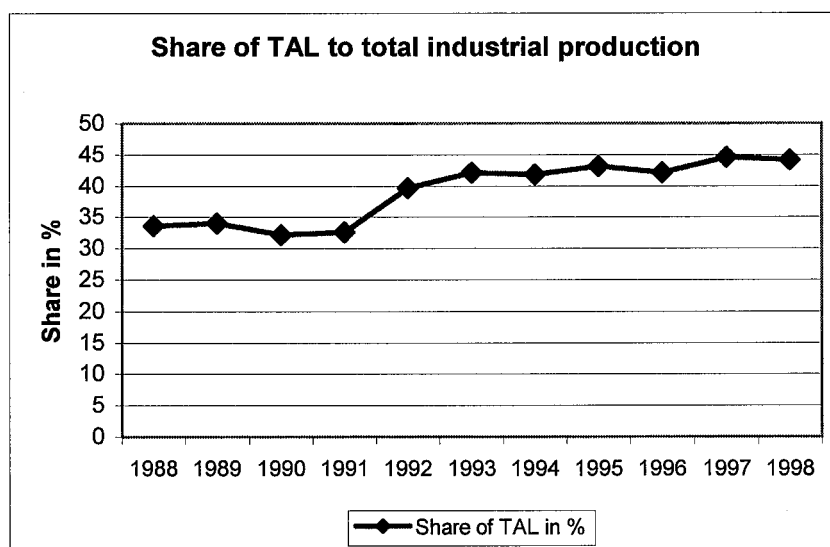
Source: Central Bank, 1999

During the last 10 years, the Sri Lankan industry witnessed an impressive development. At current prices the value of the production is seven times the value of that 10 years before. The

next graph shows the development of the TAL industry in relation to overall industry. The indices (1988=100) show that TAL grew every year somewhat faster than the other industries.

Production Indices (1988 = 100)
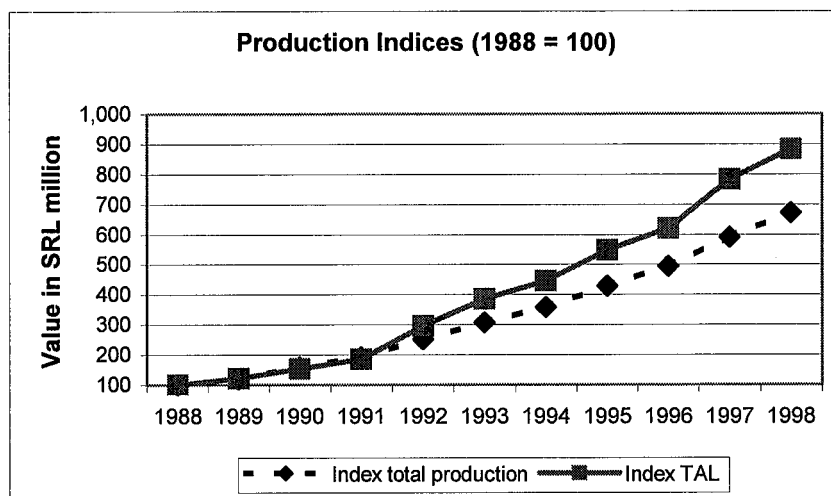
Source: Central Bank, 1999

The textile and apparel sub-sectors had a very different development during the last 10 years. While the textile industry had a moderate growth up to 1994 and then stagnated, the apparel industry was able to increase its production every year. Today the apparel industry enjoys a dominant position within the textile chain.

Production indices
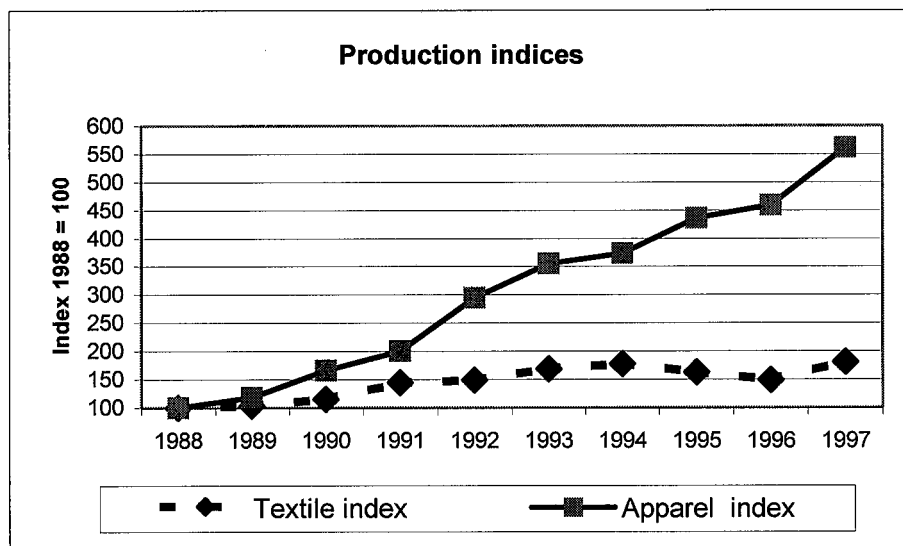
In 1998, the total industrial value added was Rs. 130 billion, of which TAL generated Rs. 48 billion. The graph below shows the distribution of the value added within the industrial sector.

It is interesting to note that TAL has a relatively low value added. TAL has a share of 44% in the industrial production but only 35% of the value added.

Distribution of value added by industries 1998
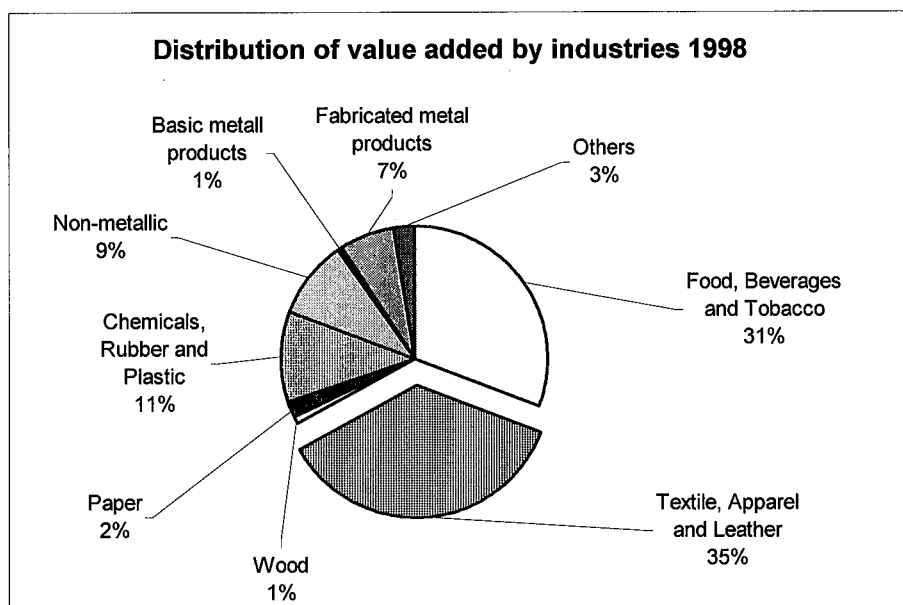
The increase of the value added of the TAL industry was faster than of the other industries. The graph below shows a significant difference. Considering the different development of textile and leather the value added of the apparel industry is currently 10 times that of 1988.

Value added (on current Rs.)
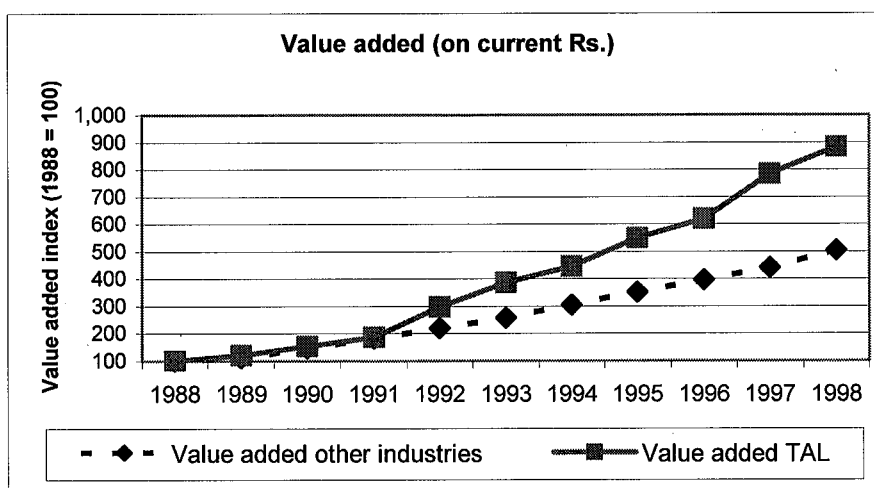
Apparel production

The two graphs below show the quantitative output of the textile (in m^2) and apparel industry (in kg). The apparel industry had a significant production increase in 1992 and 1997. It is estimated that in the current year 2000 the apparel industry will reach a total volume of 25 million kg. The textile industry was able to increase production from 125 million m^2 in 1988 to 220 million m^2 in 1994. Since this year production is more or less stagnating due to the liberalization of the textile markets and the elimination of customs duties for textile products.
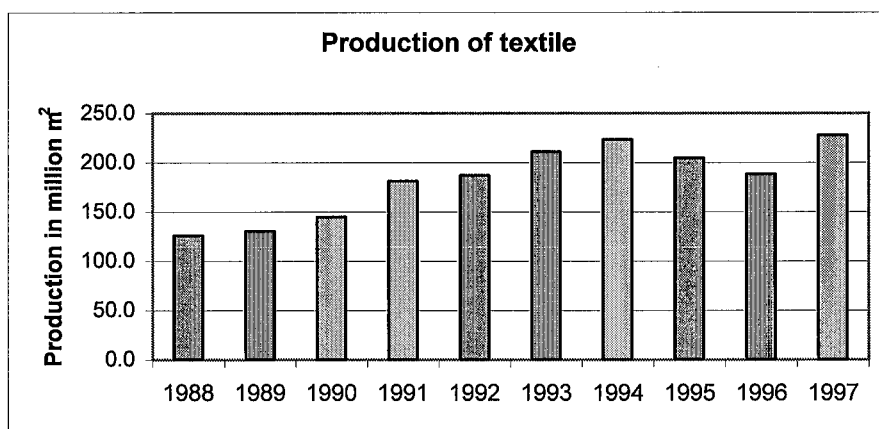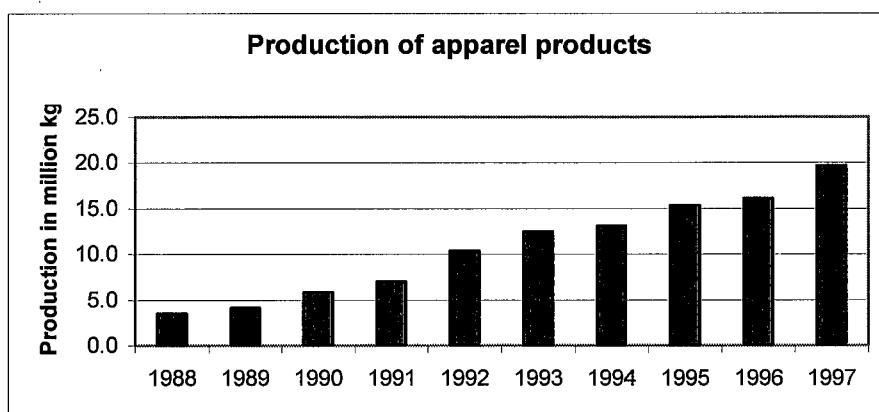
Source: Central Bank, 1999

The input of fabrics for the apparel industry changed dramatically during the last 10 years. In 1988 the linkage between the apparel industry and the local textile suppliers was completely different to what it is now. During this time (see graphs below) more and more enterprises bought fabrics from overseas. The cover ratio of domestic supply of fabrics dropped from 36% in 1989 to nearly 15% in 1997. The local textile industry is able to supply knitted fabrics at competitive prices and quality but for woven fabrics the apparel enterprises are almost

totally dependent on overseas deliveries. The local production is not competitive; Chinese and Indian woven fabrics are better and cheaper.

Input of fabrics for the apparel industry

Source: Central Bank, 1999

Cover ratio of domestic fabric suppliers
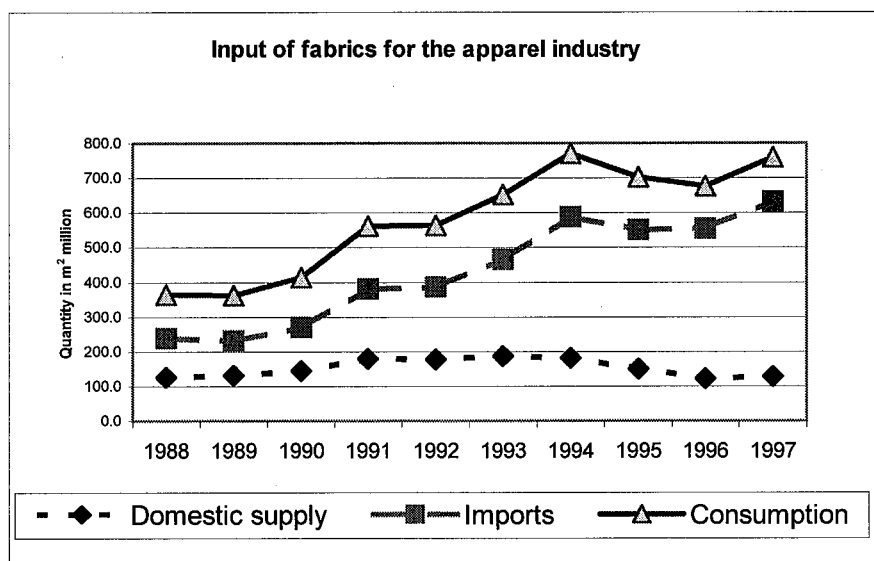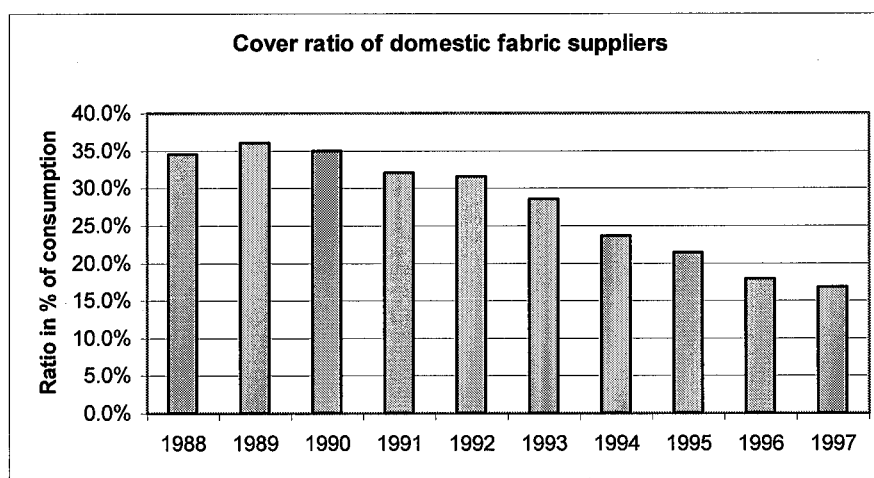
Source: Central Bank, 1999

1.4   Products, Markets and Sales

The business of the apparel industry is mainly concentrated on export. Approximately 95% of the industrial production is exported and the local market plays a minor role. The enterprises consider the local market only to be an opportunity to fill production gaps. A systematic approach to cover the domestic demand for apparel products does not practically exist. The

main reason for this are the historical roots of this industry in this country. The industry started using the advantages of the quotas granted to Sri Lanka from the MFA. From the beginning the enterprises were oriented on working mainly in job processing for foreign customers.

Because of the negligible wastage of the domestic market, the market and sales analysis is based on export. The influence of the MFA on the business is great; the allocation of quotas to the enterprises is still a determinant factor.

The first graph shows the nominal export of knitted and woven garments over the last ten years. The share of knitted garments in the total production is around 1/3. The graph showing the value of exports in USD gives a clearer picture of the development. This picture is impressive: the export value in US-dollar increased from 600 million USD in 1990 to 2.200 million USD in 1999.

The growth rates on an US-dollar basis were always positive but varied a lot during this long period of time. After high increases in 1992, 1995 and 1997 weaker years followed. One reason for this difference is the date of shipment, *i.e.* a high concentration of shipments just before or after the year-end has an impact on the growth rate. For the current year 2000 a further growth in the region of 8% is expected.

Export of garments (in Rs.)

Source: SLAEA, April 2000

Export of garments (US$)

Source: SLAEA, April 2000

Garment export growth rate (on US$ basis)
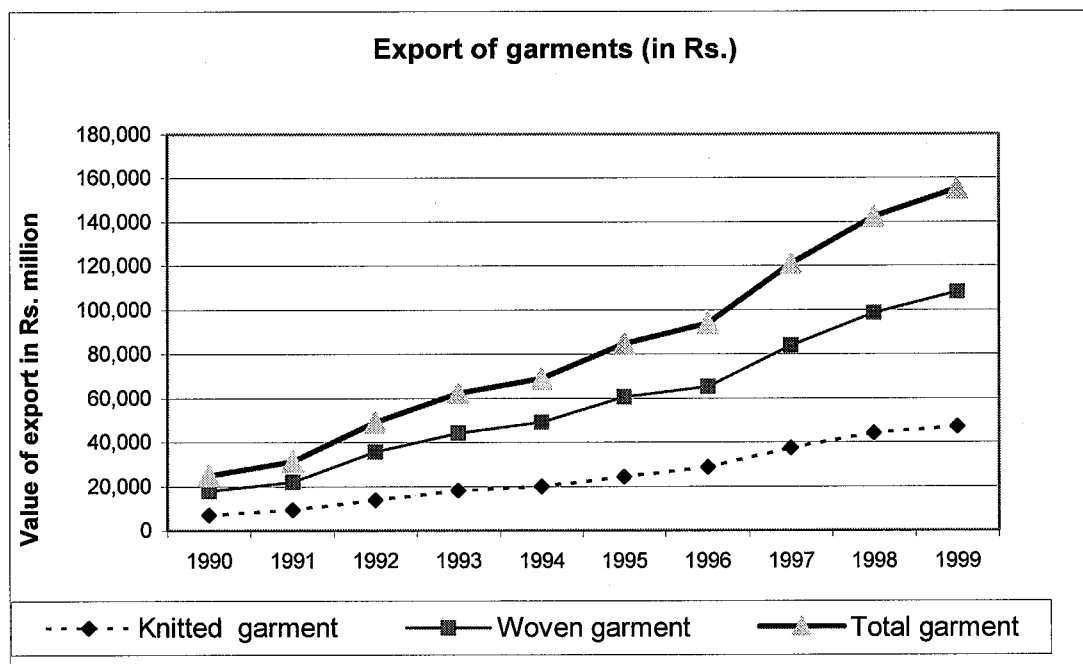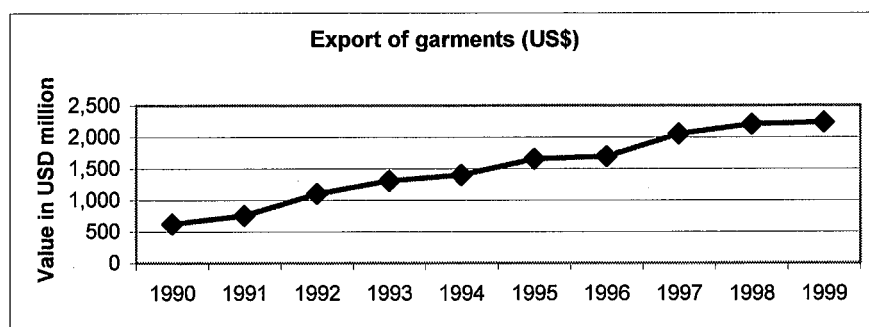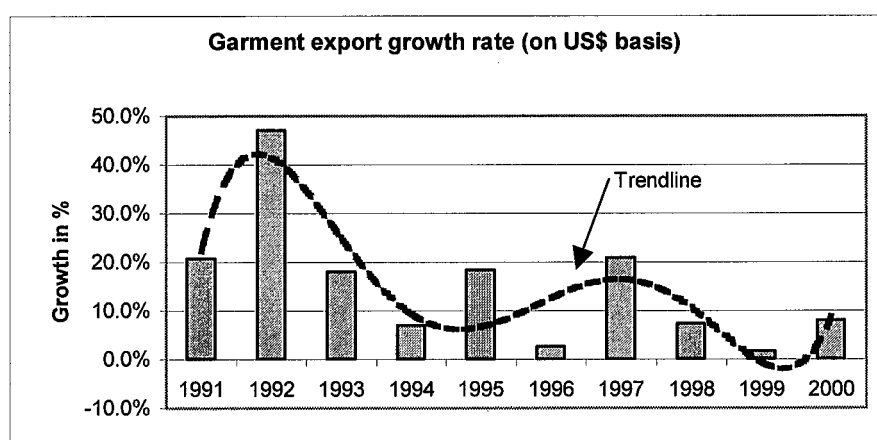
Source: SLAEA and UNIDO estimations, May 2000

The exports are highly concentrated on one major market, the USA that, on an USD-basis, absorb more than 60% of the Sri Lankan exports. The second market is the EU that takes nearly 35%. All other markets together account for a share of less than 5%. Canada and Australia are constant buyers of Sri Lankan garments but their quantities are very small.

Export by regions 1999
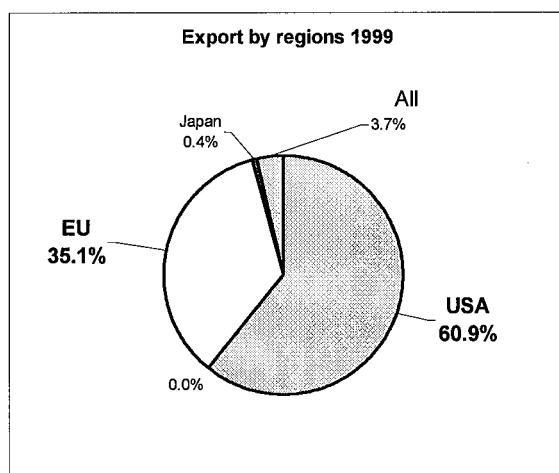
The US market is a large and homogenous market. The differences within this market are mainly dictated by climate conditions and not by regional consumption behaviors. In the USA the Sri Lankan enterprises are concentrated in the mass-market; the customers are large distributors with a worldwide sourcing organization.

The EU market is slightly larger than the US market but much more differentiated. The regional differences are strong and need selective marketing strategies. Only in UK, the former colonial power and traditional trading partner is the Sri Lankan garment industry presently doing real good business. More than half of the business is concentrated in this country of the EU, although the market share of the UK in the whole EU garment consumption is only 15%. The second important market is Germany holding a share of 17%. Most of the exports to Germany are in the form of direct business by German companies having their own production units in Sri Lanka or Sri Lankan-German joint ventures. The other EU markets play only a small part or none at all.

Export in the EU 1999

Italy 3%
France 6%
Belgium/Lux 7%
Netherlands 7%
Germany 17%
UK 55%
Sweden, Portugal, Greece, Ireland Spain Finland Denmark Austria 5 %
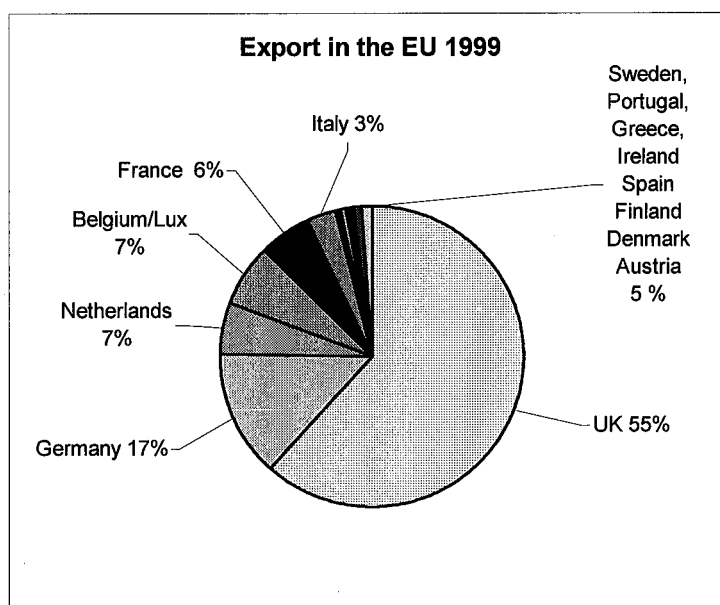
An interesting point for the development of a long-term strategy is the relation of the garment business under the strongly regulated quota system of the MFA and the quota-free business. The business based on the quota system is a distortion of the free trade and does not give a real picture of the competitiveness of the garment industry of a country. The quota-free business is more realistic because competition is free and relatively fair.

The next graph shows that the US business is mainly a quota business: 53% of the supplies are under quota and only 8% non-quota. Business in the EU, or better mainly in the UK, is primarily a non-quota business (3/4 of the EU export), only one quarter is regulated by quotas.

Total export by quotas 1998
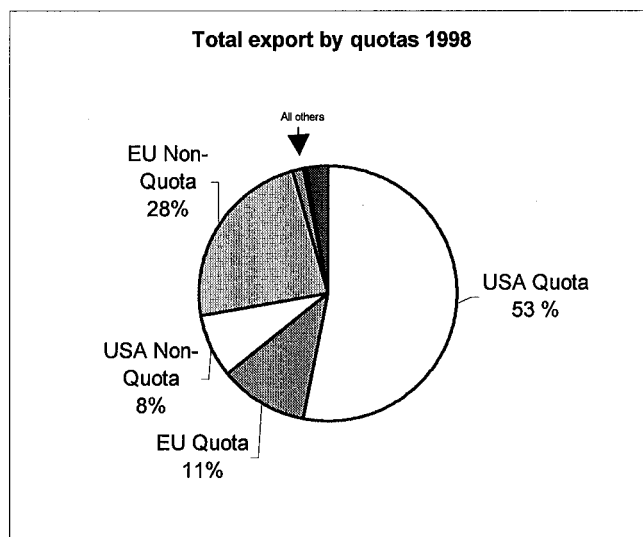
Both businesses increased during the last three years (see next graphs). The quota business with a value of 1.4 billion USD from a total export value of 2.2 billion of USD (1998) clearly shows that the Sri Lanka apparel industry is still highly dependent upon the supplies under the MFA regulations. During the last three years the non-quota business in the USA increased slightly and also in the EU the non-quota business seems to grow.

Total export of quotas and non-quotas

Ratio of Quotas and Non-Quotas
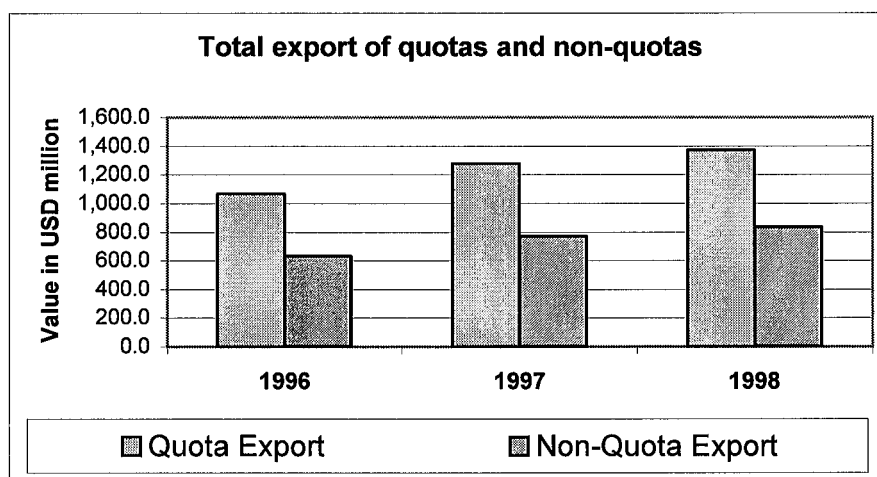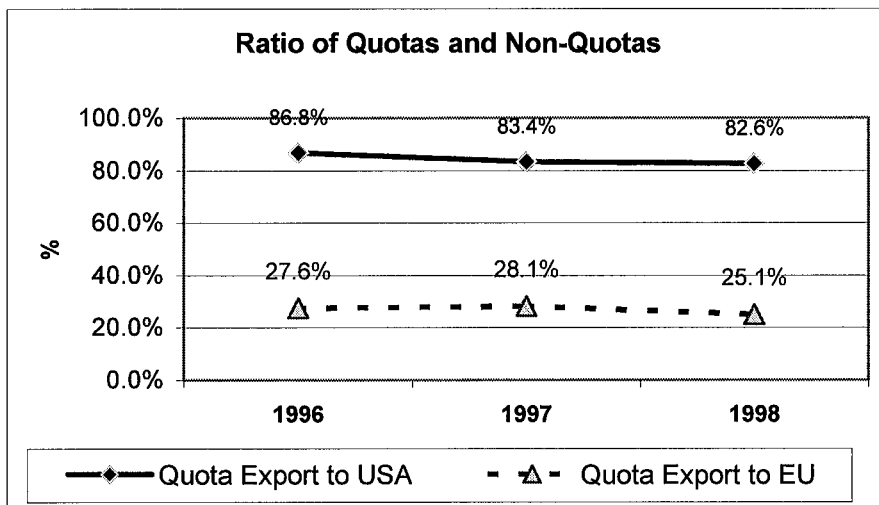
The exports are concentrated on few categories. The top 15 exports product categories (see table) show that the first 5 categories create almost 2/3 of the total export business.

Top 15 Exports Product Categories from Sri Lanka in 1999

Rank	HS Code	Description of Product	Value (Million Rupees)	%
		Chapter 61 Articles of Apparel clothing knitted or crocheted		
1	6204	Women's or Girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts(other than swimwear).	33,023.96	23.3
2	6203	Men's or Boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts(other than swimwear).	19,883.40	14.0
3	6206	Women's or Girls' blouses, shirts and shirt-blouses.	14,944.26	10.6
4	6205	Men's or Boys' shirts.	10,644.40	7.5
5	6105	Men's or Boys' shirts, knitted or crocheted.	9,013.00	6.4
6	6109	T-shirts, singlets and other vests, knitted or crocheted.	8,310.65	5.9
7	6110	Jerseys, pullovers, cardigans, waistcoats, and similar articles, knitted or crocheted.	7,884.28	5.6
8	6208	Women's or Girls' singlets and other vests, slips, pettycoats, briefs, panties, nightdresses, pyjamas, negliges, bathrobes, dressing gowns and similar articles, knitted or crocheted.	7,638.54	5.4
9	6212	Brassieres, girdles, corsets, braces, suspenders, garters and similar articles and parts thereof whether or not knitted or crocheted.	6,036.51	4.3
10	6108	Women's or Girls' slips, petticoats, briefs, panties, Nightdresses, pyjamas, negliges, bathrobes, dressing gowns and similar articles, knitted or crocheted.	4,541.29	3.2
11	6116	Gloves, mittens and mitts. knitted or crocheted.	4,521.20	3.2
12	6111	Babies garments and clothing accessories, knitted or crocheted	4,174.90	2.9
13	6211	Track suits, ski suits and swimwear.	3,990.19	2.8
14	6106	Women's or Girls' blouses, shirts and shirt-blouses, knitted or crocheted.	3,513.43	2.5
15	6104	Women's or Girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, Bib and brace.	3,484.12	2.5
		Total	141,604.11	100.0

The main products exported could be characterized as follows:

A. Woven garments for ladies
- Trousers and shorts; jeans
- Skirts
- Dresses
- Jackets
- Blouses

B. Woven garments for gentlemen
- Trousers and shorts; jeans
- Jackets
- Shirts

C. Knitted garments for ladies and/or gentlemen
- Shirts
- Blouses
- T-shirts

D. Woven and knitted nightwear for ladies

E. Foundation (brassieres and similar articles)

There are also some specialized enterprises manufacturing specific products such as gloves, babies' garments, heavy anoraks and ski suits. However, more than 90% of the exported goods belong to the product groups listed above.

All exported Sri Lankan garments are in the mass market where high quantities are sold and where the price is the first criterion for consumer decision.

There are some differences in top products in the three largest export countries:

Rank	USA	UK	Germany
1	Ladies' trousers, skirts and dresses	Ladies' trousers, skirts and dresses	Panty-hose, stockings, socks
2	Gentlemen's trousers and shorts	T-shirts	Ladies' trousers, skirts and dresses
3	Woven blouses	Jerseys, pullovers	Gentlemen' trousers
4	Woven shirts	Woven blouses	Ladies' nightwear
5	Knitted shirts	Gentlemen's trousers	Parkas, anoraks

1.5 Technology and R&D

Technology level

The technology level of the factories varies considerably. Generally the LEs have a higher standard than the SMEs. This applies also to foreign owned companies and joint venture companies with foreign participation. Several enterprises have invested in new cutting machines, high-speed sewing machines and other special machines.

The UNIDO questionnaire survey revealed that the main machines in the factories are sewing machines. With an average age of 5.3 years they are modern. Also the average age of the other machines is very low. This means that many enterprises have invested in new machinery during the last years. Six enterprises invested into CAD/CAM computer facilities with an average value of approx. Rs. 12 million.

Main Machines in Garment Industry Production

Machines	Number units (total)	Average age	Average Value
Button	70	2.8	137,091
CAD/CAM	6	1.4	11,748,000
Cutting Machine	76	3.4	382,813
Embroidery	39	3.2	2,981,944
Finishing Equipment	52	3.3	33,333
Fusing	21	5.0	137,833
Iron	181	5.0	102,000
Other Machines	957	2.8	1,560,926
Sewing Machine	27,198	5.3	326,653
Spreader	1,001	4.0	1,490,000
Unspecified	1	1.0	2,450,000

Source: UNIDO survey, March 2000

Most of the enterprises interviewed work at least with a personal computer, 25% use a personal computer server. All the installations are relatively new.

Computers in Garment Enterprises

	Number of enterprises	Total no. of machines	Average age (years)
Personal computer systems	81	856.0	2.6
Personal computer server	24	54.0	2.1
Work stations linked to server	35	837.0	2.8
Main frame	0	0	0.0
Mid-range system (UNIX)	0	0	0.0
Mid-range system (DOS)	1	2.0	2.0

Source: UNIDO survey, March 2000

Know-how transfer

A question in the survey about the use of information give some indication on the transfer of know how in the enterprises. The main sources for technical information are the suppliers of machinery and equipment and the local research organization. The international organizations like UNIDO play a minor role, as do the joint venture partners. While the importance of the local research organizations as information sources for a know-how transfer will decline, the enterprises are keen to use more joint venture partners and to intensify relationships with equipment suppliers.

Use of Sources of Information by Garment Enterprises

(Numbers of enterprises answering "yes")

Information sources	Has been useful	Very useful	Will use more in future
1. Sri Lankan news papers & magazines	34	20	26
2. Foreign news papers & magazines	20	66	74
3. Internet and e-mail	13	59	75
4. Chambers of Commerce (local business groups)	41	18	45
5. Government Ministries	26	8	13
6. Exhibitions and trade fairs	27	73	82
7. Foreign suppliers of orders and material inputs	15	43	40
8. Local suppliers of orders and material inputs	20	20	20
9. From your competitors	17	32	33
10. Foreign sales agents of machinery & equipment	22	43	54
11. International organizations (and aid donors)	9	4	4
12. Local research organizations (institutes & universities)	14	4	10
13. Joint venture partners	4	13	13
14. Others, specify...	0	13	0

Source: UNIDO survey, March 2000

Skill Level

The two tables show the skill level by location and enterprise size. In an international comparison the number of unskilled workers is very high and the number of technicians and supervisors low. There is also a significant difference between the LEs and the SMEs. Many smaller enterprises claimed that they have difficulty to recruit skilled technicians. They are scarce and expensive.

Total Surveyed Employment in Garment Enterprises by Skills and Location

	Colombo	Industry zone	Outstation	Suburb	Total
Unskilled	4,682	7,216	4,608	7,252	23,758
Skilled	9,601	12,432	14,116	12,431	48,580
Technicians	385	359	1,273	245	2,262
Supervisors	922	1,324	1,260	746	4,252
Engineer/designer	68	27	16	77	188
Middle manager	605	489	315	383	1,792
Senior manager	189	118	172	191	670
Sales/marketing	576	458	95	56	1,185
TOTAL	0	5	0	13	18

Source: UNIDO survey, March 2000

Total Surveyed Employment by Skills and Size

	Large	%	SME	%	Total
Unskilled	16,605	30.9	7,153	24.7	23,758
Skilled	29,381	54.7	19,199	66.4	48,580
Technicians	1,866	3.5	396	1.4	2,262
Supervisors	3,313	6.2	939	3.3	4,252
Engineer/designer	91		97		188
Middle manager	1,060	4.7	732	4.2	1,792
Senior manager	348		322		670
Sales/marketing	1,090		95		1,185
TOTAL	53,754	100	28,933	100	82,687

Source: UNIDO survey, March 2000

Most of the enterprises have on-the-job training schemes, but at the same time they hire skilled people coming from the specialized training institutes.

Research and Development

The R&D activities in the enterprises are very low. Most of the enterprises are purely involved in production operations. Only few companies have some product development and development-oriented activities. Due to the strong orientation of the industry to work in job processing the need to invest time and money in R&D is very low. The management is used to receiving from the customer the sketch with the design of the garment and the specification together with the materials to use. There is no need for further research.

1.6   Environmental Protection

The apparel industry is generally a "clean" industry. The environmental protection does not play a major role because the factories do not generate dangerous emissions at all. The

production activities are cutting, assembling (sewing), finishing and ironing and packaging. The energy used is electrical energy sourced from the public network; some factories use own diesel generators. The consumption of water is limited to the ironing department, which produces steam for ironing without polluting the water. Very few factories in Sri Lanka have their own dyeing departments for dyeing and finishing the garments. In this case the factories might get environment problems if they have no water treatment equipment. Dust or air pollution is very seldom in garment factories. The sewing department, especially if the factory is crowded with many working places and old and badly maintained machines might create noise problems, which reach disturbing levels. However, it is assumed that no factory has a noise level above 70 – 80 dB.

1.7 Productivity and Profitability

The production costs gathered by the representative questionnaire survey are presented in the table below. All the enterprises have, as expected, very high material costs (71.5% of the total costs), high energy costs (2.3%) in the production area but low labor costs (15.7%).

Average Costs of Production in Garment Industry in 1999 (Rs.)

	Colombo	Industry zone	Outstation	Suburb	Large	SME	Total (Ave.)
Sales in 1998 (Rs.M)	578	482	298	243	1,114	156	349
Start Year (Ave.)	1983	1985	1987	1985	1983	1987	1986
Workers	1,419	975	781	522	2560	349	795
Capital costs:							
Land and buildings	950,000	3,829,111	8,574,067	20,916,000	9,681,545	14,207,000	13,301,909
Equipment	945,909	3,484,250	13,020,650	21,318,677	15,689,882	11,815,033	12,659,551
Recurrent costs:							
Material inputs	2,460,909	17,214,667	93,103,160	369,077,368	270,088,294	155,764,051	176,222,074
Employees	1,198,833	9,085,955	25,684,269	75,556,103	52,093,368	35,487,275	38,674,303
Transport	149,091	447,818	1,590,040	2,566,889	2,206,111	1,367,645	1,528,202
Electricity	212,500	619,364	1,994,154	6,114,308	5,072,947	2,626,200	3,095,778
Other energy costs	30,000	207,083	1,772,455	4,226,857	2,364,778	2,485,917	2,461,689
Waste disposal	0	79,667	48,000	1,171,500	1,086,000	555,286	621,625
Marketing	218,889	1,036,538	3,377,889	9,806,548	8,852,308	4,571,897	5,355,634
Royalties & patents	5,000	1,589,600	2,500,000	7,684,000	27,000	4,116,200	3,744,455
Interest payments	429,286	1,695,941	4,690,136	9,181,806	7,294,188	4,966,361	5,450,065
Rent on land/bdgs	96,250	469,333	1,052,200	7,844,588	914,125	5,033,889	4,092,229
Rent on other	0	1,331,222	739,000	2,415,667	3,684,600	1,303,316	1,799,417
Other costs	60,000	6,620,600	27,710,400	46,151,118	45,478,000	26,537,741	29,981,424
Total	5,442,167	35,259,826	146,463,577	505,506,325	332,169,150	225,446,975	246,580,079

Source: UNIDO survey, March 2000

Following the result of the survey the enterprises in Greater Colombo have very high costs for land and buildings (up to 17%) or for rent. The costs for interest payments (SMEs: 2.2% and LEs 2.1%) are, in international comparison, at the lower side.

The next two tables show the average labor costs by skill and remuneration and the average costs by location. There are no significant difference between the salaries paid in the greater Colombo and outside for the workers and lower management. The relatively high salary for the management is connected with the shortage of skilled people for these key positions.

Average Cost of One Worker in Garment Enterprises by Skill

	Average salary monthly	Average overtime payment monthly	Average production bonus pay monthly	Other monthly payments(e.g.. lunches, clothes) monthly	Average bonus Yearly
Unskilled workers	2,619	989	613	481	257
Skilled workers	3,432	1,290	724	556	340
Technicians	6,119	1,594	811	542	599
Supervisors	6,401	1,769	897	534	595
Middle Management	11,057	2,576	1,014	774	1,147
Senior Management	24,205	3,417	853	1,248	2,383

Source: UNIDO survey, March 2000

Average Cost of One Worker by Skill and Location (Rs./month)

	Colombo	Industry zone	Outstation	Suburb	Total (Ave.)
Unskilled workers					
Salary	2,518	2,924	2,583	2,504	2,619
Other payments	1,485	2,801	2,149	2,276	2,340
Skilled workers					
Salary	3,314	3,996	3,365	3,193	3,432
Other payments	1,939	2,821	2,729	3,143	2,910
Technicians					
Salary	7,315	7,141	5,852	5,339	6,119
Other payments	2,811	3,303	3,745	3,613	3,546
Supervisors					
Salary	6,636	7,173	5,652	6,301	6,401
Other payments	2,397	3,474	3,817	4,022	3,794
Middle managers					
Salary	14,138	11,095	9,036	11,570	11,057
Other payments	3,658	3,872	3,555	7,782	5,512
Senior managers					
Salary	32,773	29,412	19,920	21,812	24,205
Other payments	6,974	5,237	4,486	10,060	7,900

Source: UNIDO survey, March 2000

Reliable information on the profitability of the enterprises was not available. It is assumed that in international comparison the profitability of the LEs and some well-managed SMEs is good or very good. Several enterprises were able to finance their investments with own resources. This is an indication that at least in the course of the last year these enterprises have worked profitably.

Investment

The apparel industry invested a lot in an expansion of the business in two phases: In the two years 1992 and 1993 the enterprises increased investments in machinery by 350%. After a period of decreasing investments the enterprises invested again in 1996 and 1997. Investments currently amount to approx. 40 million USD/year (see graphs below).
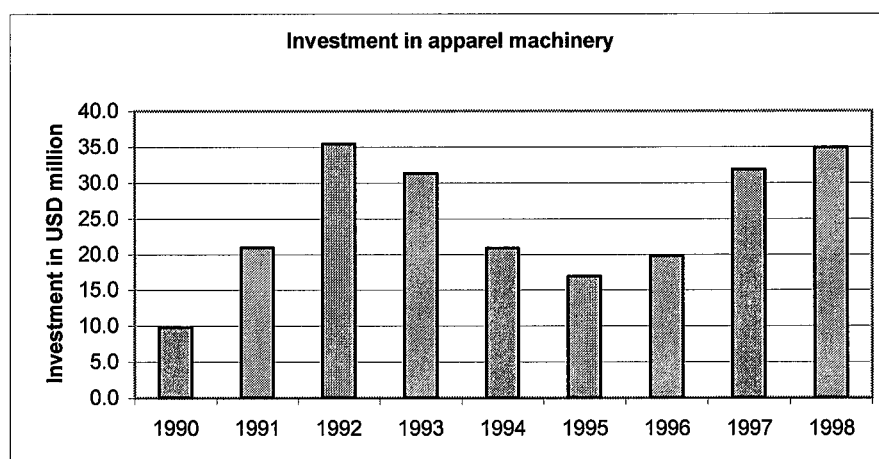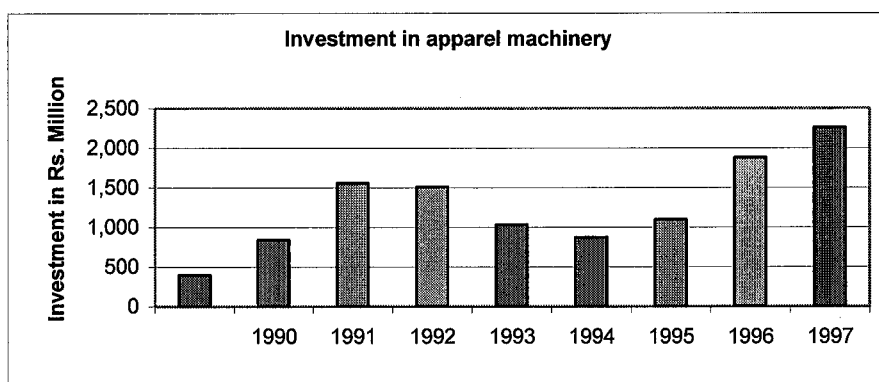
Source: Central Bank, 1999

Investment per employee in Rs. (see graph) increased moderately during the last four years. In 1998 the average investment was 330,000 Rs./employee, i.e. 5,500 USD/employee. In

comparison with other countries this amount is high. This means that the enterprises look favorably into the future and that they are prepared to invest into modern and expensive technology.
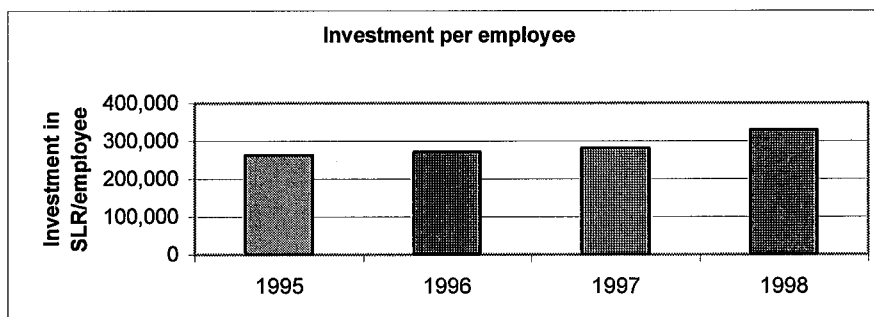
Source: Central Bank, 1999

The survey gives some indications on the financing activities of the enterprises. Most of the loans are medium term between 3 and 4 years. The bulk of the interest paid is between 15 and 18% (weighted mean).

Summary of Financing Activities

Interest rates	No. Loans	Terms	No. Loans
<10%	10	<13 months	4
11-16%	16	36 months	12
17%	6	48 months	12
18%	10	60 months	4
19%	5	72 months	5
20-21%	8	96 months	4
22-23%	5	≥ 8 years	0

Source: UNIDO survey, March 2000

2. STRENGTHS, WEAKNESSES AND BOTTLENECKS

2.1 Strengths and Weaknesses

Success factors

The critical factors of the competitiveness of the apparel industry in general can be summarized as follows:

A. Macro-economic factors

- Economic policies, focused on the development of the private sector manufacturing durable consumers' goods
- Social environment, mainly the labor laws and the social relationships (employers and unions)
- Trade policies, including customs regulations
- Availability of skilled personnel at all enterprise levels
- Availability of long-term capital at internationally competitive conditions
- Transport facilities within the country
- Overseas transport facilities for imported and exported goods
- Communications
- Availability of electricity
- Availability of information on markets and technology
- Linkages to supplying industries and services
- Degree of representation of the whole industry versus government and international institutions

B. Micro-economic factors

- Production costs and pricing
- Quality of the product in relation to the customers' expectations
- Delivery service (time and costs): supply + throughput time + goods delivery
- Process technology and manufacturing systems
- Machinery and equipment
- Human resources management: workers, low and middle management
- Social relationship to personnel
- Product development: design and product engineering
- Strategic marketing: ability to identify markets and develop competitive strategies
- Operative marketing: ability to meet the customers' requirements and reach customers' satisfaction

- Purchase of material in terms of costs and time, mainly fabrics and accessories
- Own financial resources for working capital and investments
- Administration, costing system and material management

The questionnaire survey and the interviews with the management revealed, particularly in the SMEs, a limited knowledge of the international environment and the relevant changes in this industry in the last decade. This is due to the isolation of the enterprises. The relationships between the companies' management and the market is mainly restricted to the buying offices in the country, which deliver the product and the material and dictate more or less the contract conditions. The same applies to the technology transfer, which is limited to contacts with the machinery suppliers present in the country.

According to the questionnaire survey all enterprises consider that the country has some infrastructure problems. The large enterprises are more critical than the SMEs. The top most problem for both is the poor transport conditions within the country. The road network is in a poor condition and congested. This means long transport times and high costs for the companies with factories outside greater Colombo. All enterprises complain about the high costs of electricity. Customs services and the port facilities are, mainly for the large enterprises, rather inefficient. The banking system and telecommunications are considered to be expensive and poor. The high costs for international communications and money transfer affect particularly this strong export-oriented industry.

Problems with Infrastructure: Large Enterprises

Potential problem areas	Large TE	Large PQ	Large PS	Large NP	% problem
Road network/congestion	0	11	4	6	71
Road conditions	2	12	3	4	81
Customs services	0	4	11	6	71
Port facilities	3	4	10	4	81
Airport facilities	2	5	2	12	43
Banking system	4	0	6	11	48
Bonded warehouses	1	3	3	14	33
Telecommunications	5	3	4	9	57
Electricity	9	4	0	8	62
Water	3	2	4	12	43
Land access	6	3	1	11	48

Note: TE = "Too expensive"; PQ = "Poor quality";
PS = "Poor service"; NP = "No problem"
Source: UNIDO survey, March 2000

Problems with Infrastructure: SMEs

Potential problem areas	SME. TE	SME PQ	SME PS	Small NP	% problem
Road network	4	46	17	16	81
Road conditions	3	51	14	15	82
Customs service	5	7	39	32	61
Port facilities	2	10	31	40	52
Airport facilities	4	6	17	56	33
Banking	13	0	33	37	55
B. warehouses	2	6	21	54	35
Telecommunications	22	6	17	38	54
Electricity	32	10	15	26	69
Water	10	4	9	60	28
Land access	24	2	7	50	40

Note: TE = "Too expensive"; PQ = "Poor quality";
PS = "Poor service"; NP = "No problem"
Source: UNIDO survey, March 2000

As to the main problems and constraints that the enterprises are facing, the large enterprises clearly evaluated the problem areas worse than the SMEs. On top is the competition from overseas, labor relations and labor costs. The issues of competition from overseas and the labor costs are due to increasing pressure from countries with cheaper labor like China and Bangladesh. The analysts were wondering about the very critical evaluation of the labor relations. The Sri Lankan apparel industry is not confronted with strikes and aggressive unions; the relationship with the representatives of the personnel is smooth and friendly. The main handicap is the very old and rigid labor law that neither allows the urgently required flexible working hours, nor the payment of wages based on performance rather than on time only.

Two further extremely important constraints (see also the success factors above) are the access to technology and markets. LEs as well as SMEs are of the same opinion. Sri Lanka is far away from the markets and the places where garment technologies are developed, *i.e.* Europe, Japan and partly USA. The enterprises have identified the problem, but they do very little to overcome it, nor do the local institutions.

Additional constraints are the lack of governmental support; the quality input (irregular supply or quality of material inputs) and the sub-contracting dependency. A competitiveness study[3] recently carried out revealed that Sri Lanka scores relatively low in its competitiveness ranking while the economic performance is high. The entrepreneurs have obviously very high

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[3] J.E. Austin Associates, Inc. and SRI International: Sri Lanka Competitiveness Study, September 1998.

expectations as to what the government can do. The two other issues are relevant and show room for improvements.

Other issues like regulations and finance access are not considered to be major problems. The political environment does not create problems at all.

Main Problems and Constraints Identified

Problem areas	Large				SMEs			
	No Problem	Some Problem	Big problem	% problem	No Problem	Some Problem	Big problem	% problem
Poor equipment	17	3	1	19	55	21	7	34
Labor relations	2	15	4	90	18	43	22	78
Labor costs	1	11	9	95	25	25	33	70
Skilled labor availability	13	5	3	38	24	41	18	71
Finance access	15	5	1	29	69	10	4	17
Environ. Regulations	11	7	3	48	53	27	3	36
Input quality	6	10	5	71	24	46	13	71
Govt. Regulations	10	11	0	52	50	26	7	40
Technology (access)	3	9	9	86	18	32	33	78
Govt. lack of support	5	8	8	76	19	31	33	77
Govt. lack of incentives	16	4	1	24	64	11	8	23
Sub-cont. dependency	8	11	2	62	28	41	14	66
Market access	3	7	11	86	15	23	45	82
Competition from o/seas	4	5	12	81	18	24	41	78
Political instability	21	0	0	0	75	0	8	10
Others	21	0	0	0	82	0	1	1

Source: UNIDO survey, March 2000

Competitive environment

How does Sri Lanka's export performance compare with that of other Asian developing economies? Here the consultants chose China and two more industrially advanced (at least pre-crisis) Southeast Asian economies (Thailand and Indonesia), and two low-income recent exporters (Bangladesh and Vietnam).

In this comparative picture, China dwarfs Sri Lanka's exports, in absolute values. However, the rate of growth of Sri Lankan garment exports has kept pace with that of China during the last ten years. In 1985, China exported 13.1 times the volume of Sri Lanka, and in 1996 it was 13.3 times. In the meantime, however, other countries have increased their global market shares. Both Bangladesh and Indonesia have experienced high growth rates of garment export.

Bangladesh's garment exports amounted to 59 percent of Sri Lanka's in 1985, but by 1996 they represented 144 percent of the latter. Vietnam, a latecomer, exported only 10 percent of Sri Lanka's volumes in 1985, but by 1996 its exports amounted to 62 percent of Sri Lanka's. Only Thailand's garment exports grew at a slower pace than Sri Lanka's. This is probably because of poor exchange rate policies over the period. With the Baht pegged to the US dollar, the real exchange rates declined and export industries suffered. The adjustment in 1997 has, of course, boosted Thailand's export competitiveness.

Two other points emerge from the comparison in the table below. One is how relatively underdeveloped Sri Lanka's textile industry appears to be, as indicated by its low share of total textile exports. It shares this feature with Bangladesh and Vietnam, and contrasts with the export patterns of the more industrialized economies of China, Indonesia and Thailand. There is nothing inherently desirable in having a 'balanced' export structure. Indeed, it would be dangerous to promote the textile industry if it was achieved via protection that penalized the efficient garment industry. But the fact that these more industrially advanced countries do have a sizeable textile export industry suggests that, in the right policy environment, Sri Lanka could also aim in this direction. A second observation is that Sri Lanka and Bangladesh exhibit an extreme - unhealthy in fact - reliance on textiles and garment exports. In the other countries, textile and garment exports range between 5-20 percent of total exports, but for Sri Lanka the figure is 59 percent. This suggests that Sri Lanka has a distorted industrial structure due to excessive and selective interventions.

Sri Lanka is clearly unusual in the comparison of net trade ratios (see next table). Like Bangladesh, again, and the low-income recent exporter, Vietnam, Sri Lanka is a net importer of textiles. By comparison, China, Indonesia and Thailand are all net exporters. All six countries exhibit very high NTRs[4] for garments, of at least 0.9, reflecting the interplay of comparative advantage and import restrictions. The net textile and garment exports for Sri Lanka are low, compared to ratios in the range 0.43-0.67 for the other four countries in the comparison - except Vietnam. There is nothing inherently desirable in high NTRs, but where they are not found in such labor-intensive activities in which low-income countries might be expected to have a strong comparative advantage, serious domestic supply-side obstacles must be presumed to be present. In Sri Lanka's case, this almost certainly points towards the textile industry, and again underlines the need for structural adjustments and increased competitive pressure.

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[4] NTR means the Net Trade Ratio. The formula is NTR = $\frac{\text{exports} - \text{imports}}{\text{exports} + \text{imports}}$ expressed in %

Sri Lanka's Comparative Export Performance (USD million, or ratio in %)

Sri Lanka	1985	1990	1996
Textile exports (T)	11.3	24	163.5
Garment exports (G)	284.8	643.7	1,886.6
Textile & garment exports (T+G)	296.1	667.6	2,050.1
T+G as % of total exports	23.8	35.3	59.3
T+G as % of manufactured exports	72.9	65.9	71.3

Vietnam:	1985	1990	1996
Textile exports (T)	6.5	27.8	175.5
Garment exports (G)	21.1	90.7	1,162.7
Textile & garment exports (T+G)	27.5	118.5	1.338.2
T+G as % of total exports	7.9	7.9	19.8
T+G as % of manufactured exports	55.0	56.4	41.3

China:	1985	1990	1996
Textile exports (T)	2.654.8	7.201.6	12.155.0
Garment exports (G)	3,729.8	9,610.1	25,000.4
Textile & garment exports (T+G)	6,384.6	16,811.8	37,155.4
T+G as % of total exports	6.4	7.1	4.6
T+G as % of manufactured exports	2.6	7.3	8.8

Indonesia:	1985	1990	1996
Textile exports (T)	239.3	1.256.2	2.830
Garment exports (G)	339.7	1,671.1	3,674
Textile & garment exports (T+G)	579	2,927.3	6,504
T+G as % of total exports	3.1	11.5	13.1
T+G as % of manufactured exports	19.8	30.8	24.8

Thailand:	1985	1990	1996
Textile exports (T)	415.6	917.9	1,419.7
Garment exports (G)	572.6	2,825.7	2,958.5
Textile & garment exports (T+G)	988.3	3,743.6	4,378.2
T+G as % of total exports	14.0	16.3	8.2
T+G as % of manufactured exports	33.8	25.6	11.2

Bangladesh:	1985	1990	1996
Textile exports (T)	366.7	342.8	247.1
Garment exports (G)	167.5	643.1	2,711.9
Textile & garment exports (T+G)	534.2	985.8	2,959
T+G as % of total exports	54.9	63.3	80.2
T+G as % of manufactured exports	83.4	81.7	90.6

Source: UNIDO survey, March 2000

Sri Lanka's Trade In Comparative Perspective (USD million or ratio in %)

Sri Lanka:		1985	1990	1996
Textiles	- NET X	-161.9	-388	-795.4
- NTR		-0.88	-0.89	-0.71
Garments	- NET X	282.1	635.2	1,840.4
- NTR		0.98	0.97	0.95
T+G	- NET X	120.2	247.2	1,045
- NTR		0.25	0.23	0.34

Vietnam:		1985	1990	1996
Textiles	- NET X	-80.5	-107.4	-1,007.4
- NTR		-0.86	-0.66	-0.74
Garments	-NET X	20.3	84.9	1,104.1
- NTR		0.93	0.88	0.90
T+G	- NET X	-60.2	-22.5	96.7
- NTR		-0.52	-0.09	0.04

China:		1985	1990	1996
Textiles	- NET X	1,526	1,925.1	191.3
- NTR		0.26	0.15	0.01
Garments	- NET X	3,628.1	9,547.2	23,967.5
- NTR		0.95	0.99	0.92
T+G	- NET X	5,154.1	11,472.3	24,158.8
- NTR		0.54	0.52	0.48

Indonesia:		1985	1990	1996
Textiles	- NET X	113.8	471.1	1,565
- NTR		0.31	0.23	0.38
Garments	- NET X	336.8	1,658.5	3,651
- NTR		0.98	0.99	0.99
T+G	- NET X	450.6	2,129.6	5,216
- NTR		0.64	0.57	0.67

Thailand:		1985	1990	1996
Textiles	- NET X	187.3	21	179.2
- NTR		0.29	0.01	0.07
Garments	- NET X	568.2	2,799.1	2,810.4
- NTR		0.98	0.98	0.9
T+G	- NET X	755.5	2,820.1	2,989.6
- NTR		0.62	0.49	0.52

Bangladesh:		1985	1990	1996
Textiles	- NET X	224.9	-108.1	-902.7
- NTR		0.44	-0.14	-0.65
Garments	- NET X	166.8	628.7	2,678.5
- NTR		0.99	0.96	0.98
T+G	- NET X	391.7	520.6	1,775.8
- NTR		0.58	0.36	0.43

Source: UNIDO survey, March 2000

Strengths

Following the questionnaire survey there is unanimity in the identification of the biggest strength of the Sri Lankan apparel industry. The product quality ranks absolutely on the top position (see table below): in the average a score 10.4 points of maximum 11. This is true, in a sense, because most enterprises, large and SMEs, are really conscious that the consumers in the main markets wish to have quality product. However, the measurement of quality in the apparel market is always related to the price. It is the definition of the "relative quality". The European and American consumers have a very well developed attitude to judge the value of the garment. The quality expectations as to an 11 USD trouser are completely different from those of top branded trouser of 70 USD. The Sri Lankan industry is mainly a supplier of a mass market (*e.g.*. GAP, Wal-Mart, Marks & Spencer) where the price is the first buying criterion; the quality (fabric and finishing) must be acceptable for the price. For the current market segments the quality level in Sri Lanka is an important strength; however, if the enterprises want to enter into the upper markets, serious efforts for quality improvement and control are inevitable.

On the second rank with a score of 9.1 is the product price. The judgment of the enterprises is relatively correct. Large customers confirm that the price-quality relation of Sri Lanka is good. Other countries are able to offer lower CMT prices but the price advantage does not compensate the quality gap. The value of this strength is only short-term. Other countries are working hard to improve quality and keep the costs low. If the Sri Lankan enterprises will not put strong efforts into cutting costs or enhancing productivity as well as into maintaining a relatively good quality standard, this strength will vanish.

On-time delivery with a score 8.4 is the third best strength. Customers confirm this perception. The enterprises and the forwarding agents work together to reduce the total lead-time. Currently the lead-time measured from the day of reception of an order to the day of delivery to the customer's warehouse is approximately 90 days (if the fabric is not available on stock). This lead-time is acceptable for standard "all season products" but not for fashion products. In this regard, however, the South Asian competitors are not better. However, Mexico, the Maghreb countries and the new competitors in Eastern Europe have the significant advantage of proximity to the markets.

The enterprises still evaluate the availability of skilled labor, production capacity, and management as strengths, but at a lower ranking. The consultants do not see Sri Lanka in a better position than other countries.

The enterprises fear that the current strengths could be eroded by Asian competitors (see table). It is expected that China and India will improve their position considerably. They will be the main competitors to be beaten. Vietnam, Thailand and Indonesia are considered to be weaker in the future.

Evaluation of Competitive Strengths (average scores*)

	Colombo	industry zone	outstation	suburb	Large	SME	Total (Average)
Product quality	10.7	10.6	10.3	10.2	10.1	10.4	10.4
Product design	8.5	5.8	7.6	6.3	5.1	7.5	7.0
On-time delivery	7.6	9.3	7.8	8.8	7.7	8.6	8.4
Product price	9.2	9.4	9.3	8.7	7.9	9.3	9.1
Technology	6.0	7.0	7.0	6.2	6.5	6.6	6.6
Capacity	6.8	6.6	7.5	6.5	6.6	6.9	6.8
Skilled workers	6.1	8.1	7.4	7.2	7.3	7.3	7.3
Marketing	6.3	7.4	4.4	3.7	4.4	4.8	4.7
Export contacts	5.3	8.2	6.1	6.5	7.6	6.4	6.7
Management	6.3	7.5	6.9	6.9	7.7	6.7	6.9
Finance	5.5	8.0	5.5	4.6	7.3	4.8	5.6

* These are the average scores of responses given, where a score of 11 means "strongest", and lower scores indicate weaker evaluations of relative strengths.

Source: UNIDO survey, March 2000

Self-evaluation of competitor countries in the garment industry*

Countries	Sum of all enterprises		Sum of SMEs		Sum of Industry Zones	
	1999	2010	1999	2010	1999	2010
Bangladesh	273	137	66	21	60	25
Vietnam	204	60	44	6	44	11
China	129	313	28	91	40	81
Indonesia	83	15	34	0	13	6
India	58	232	13	78	14	45
Thailand	41	3	37	0	0	0

* Enterprises list four countries, with 4 points for "strongest" competition, going down to one point for "fourth strongest". This table shows the sum totals from all answers.

Source: UNIDO survey, March 2000

Weaknesses

According to the questionnaire survey, the enterprises (except for those located in the industry zones) recognize a major weakness in marketing. In fact, almost all the enterprises are totally dependent upon buying offices and the allocation of quotas. Apart from few exceptions marketing is very poor. The information level about the markets is extremely low and marketing activities do not exist at all. The interviews have shown that the knowledge of the

fundamentals of marketing and specifically of export marketing is very low. Only few companies have started to implement marketing tools.

As clearly mentioned in Section 1, the industry is heavily dependant upon the USA and UK markets. Of course, both markets are large enough, but a geographical diversification would assist to distribute the business risks.

Product design and product development is generally unknown. Knowledge of the fashion trends in Europe and in the USA is nearly nil. The process of product development from the market information to the finished sample is almost unknown except for some lesser important issues. The customers, including the specifications for the materials, deliver all the details of the products.

Production technology is weak, but only in the factories that have not invested in the last ten years. In comparison with other countries in the Asian Subcontinent, production technology is good or average. However, investments into machinery were not followed by investments into work place engineering. This is one of the reasons why productivity in Sri Lanka is not better than in other countries of the region.

The processing technology is a clear weakness. Also the large and advanced companies do not use modern methods of Production organization and management such as the internationally accepted time measuring system General Sewing Data (GSD)

The use of PCs or client/server systems is limited to simple processes. The utilization of modern information technology and specifically of software to manage the production from material stock control trough the work-in-progress monitoring to shipping is nearly unknown. The absence of timely and accurate reporting does not allow strategies for improvement.

The costing systems and the controlling do not allow an accurate measurement of productivity and profitability. The absence of international costing per standard minute and working studies does not allow a detailed calculation of the total costs before a price offer is given. Generally the enterprises are little flexible because of the rigid production lines with short operations and few multi-skilled workers.

The allocation system of quotas in every quota-country is a very sensitive and difficult issue and Sri Lanka is no exception.

The next table summarizes the results of the questionnaire survey.

Overview of Strengths and Weaknesses Following Self-Evaluation

Strengths	Weaknesses	Neutral
Product quality Price Product design On-time delivery Marketing & Brand value	Access to finance Export contact to customers	Neutral Management Production technology Production capacity Skilled workers Management

Source: UNIDO survey, January 2000

The last table summarizes the strengths and weaknesses from the international UNIDO consultant's point-of-view:

Overview of Strengths and Weaknesses

Strengths		Weaknesses
Product quality for mass market		Export marketing (passive) Direct contact to customers (through agents) Fundamentals of marketing
Competitive political and economic environment Basic infrastucture	·········▶	Transport within the country (road)
Position on USA mass market	·········▶	Heavy dependency on the USA market
Position on UK market	·········▶	Position on EU market Position on other markets Limited domestic market
Price in relation to quality		Product design; Product development Limited product range; Insufficient specialization
On-time delivery for low fashion products	·········▶	Lead time for fashion products
Current quotas, mainly USA	·········▶	Dependency on quota system
HR: educated, trainable and comparatively cheap labor	·········▶	HR: shortage of technicians and middle management Low level of process technology and engineering Relatively low productivity Production flexibility Subcontracting Allocation system of quotas Position of SME vs. LE Relatively weak domestic textile industry Consultancy services in all functions of the firms (marketing, engineering costing, IT, etc.)

Remarks: ·········▶ the arrow means that this strength is also a weakness in some aspects

Source: UNIDO international consultant

2.2 Opportunities and Threats

The MFA: an opportunity and a threat

The market for textiles and garments is the most intensely regulated of any major internationally traded manufacture. The imposition of export quotas is obviously commercially unreasonable and harmful. But it is a fact of life in the international market place. There are advantages once quota access is secured, but there is a prospect that the regulatory environment (*i.e.* the MFA) will be gradually dismantled from January 2005. However, it always needs to be emphasized that, even in the presence of quotas, the fundamental determinant for export performance is domestic efficiency. That is, securing a quota does not guarantee access; price and quality requirements also have to be met. In addition, there is always space for export growth even in a quota-constrained environment: firms can shift to non-quota items (although the number of such items is now much reduced), they can move to higher value items (since quotas are generally quantity-defined), and they can seek non-quota (non-MFA) markets. Thus countries can achieve solid export growth even in the presence of seemingly very restrictive quotas, as Indonesia and Thailand did before exchange rate movements in the early 1990s eroded their competitiveness in labor-intensive manufactures. It is therefore important not to overstate the disadvantages of export quota restrictions.

There is in addition the question of how export quotas should be allocated. The most important requirement in quota allocations is that the process be efficient, clean, and transparent. This is to ensure that the country's quota allocation is fully utilized, and that the quota-destination markets are satisfied with domestic allocation procedures. A subsidiary issue concerns the mechanisms and criteria of the allocation process, in particular whether quotas should be awarded on the basis of past performance, or whether some form of auction system should be instituted. The latter issue arises because quota restrictions imply 'rents', or additional profits created by supply limitations, and these accrue directly to the quota-holder.

It needs to be appreciated that the giving of favors by government to particular firms or industries are subsidies. A tax concession is the same as giving cash, but instead of getting the funds and giving them back, the government never collects them. Similarly, the allocation of garment quotas, instead of the sale of quotas, is giving a subsidy. The extent of the subsidy can be measured by the tradable market value of these quotas. In this manner, through the manipulation of many taxes and by various locative mechanisms, the government distorts

prices and markets[5]. The reasons for these policies are varied: to create employment; to support small and medium enterprises; to promote regional development; to 'push' selected industries; to promote exports. The overall impact, however, is a slower rate of economic growth by not letting markets work properly. The current system in Sri Lanka involves the granting of significant implicit subsidies to quota recipients.

It is expected that the existing MFA will expire and be replaced by a new Arrangement. The new Arrangement will probably drastically reduce the products under trade control and the barriers. Some restrictions will probably remain but the current quota system will definitely expire or be replaced by a new one, which is more in accordance with the GATT/WTO rules in order to eliminate any form of protectionism.

The MFA was introduced as an alliance of American and European interests. The influential industrial lobbyists in Washington and Brussels will start soon to build up a strategy for how to avoid a garment invasion form the LDC. Mainly the Mexican and South European garment manufacturers will seek further protection.

For Sri Lanka and the other supplying countries the expiring existing quota system is an opportunity and a threat at the same time. An opportunity for those countries with a competitive garment industry (in accordance with success factors mentioned at the beginning of this section) and a threat for the countries that are not prepared to meet the challenge of a newly opened competitive environment.

Opportunities
The major opportunities are:

- Up to 2004 strengthen the position in the traditional export markets in the USA and in UK establishing a strong relationship with the distributors and buyers and develop an expansion strategy for the markets with good potential.

- From 2005 implement an aggressive marketing strategy in the markets where Sri Lanka has a weak position.

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[5] The other channel for subsidies and distorted prices is from Sri Lankan consumers. Import tariffs and non-tariff barriers mean that consumers pay above world prices for imported goods. The subsidy goes into government revenue (if tariffs), and allows import-substituting industries to make profits operating at less-than-world efficiency.

Threats

The major threats are:

- An intensification of the competition before and after the phasing out of the MFA, especially from the Sub Asian neighbor countries.

- For the EU market a strong improvement of the former socialist economies that are able to meet better the requirements (at first quality and delivery). The former socialist countries have a good textile industry and a large domestic market potential.

- New competitors arise in the Asian sub-continent (Vietnam, Cambodia, Myanmar).

- The NAFTA consolidation and other regional economic co-operations will create special advantages for the USA market.

- Labor costs in Sri Lanka increase faster than productivity.

- The market trend to present several collections (more than two) during the year makes it necessary to reduce the lead-time from the manufacturers to the shop; the more distant suppliers are not able to deliver the fashionable high value added garment products on time.

2.3   Bottlenecks

The questionnaire survey and the interviews have revealed the following major bottlenecks for the industry:

- Infrastructure
  - transport (road and rail)
  - communications (telecom bandwidth)
  - sea and airports.

- Customs procedures.

- Lack of skilled technicians, senior and middle management.

- Access to competitive interest rates.

The "200 and 50 garments factories Programs" enforce the construction of factories outstation with the objective to create employment in the rural areas. From this point of view the Programs were successful. However, the companies learnt that the transport infrastructure is

too weak. Narrow roads as designed in the colonial times are overcrowded at any time. Transport of persons and goods is in Sri Lanka time consuming and expensive.

The availability of skilled HR is a serious bottleneck for potential expansion and improvement of technology and productivity. This bottleneck will remain at least for several years considering the lead-time between the increase of training offer in the country and the utilization of the trained people in the factories.

The availability of loan at concessionary terms is a bottleneck primarily for young successful enterprises that want to expand and invest in modern technology for better quality and productivity.

2.4 Management Aspects

The management issue is strongly related to the considerations of the section above. It has to be considered in the long term and has three different aspects:

- Impact of a new environment (after MFA).

- Local human resources.

- Joint ventures.

The time before and after the expiring (or change) of the MFA will be extremely challenging for the current management. The current simple motto "high production + low costs + short throughput time + reasonable quality" will change dramatically. More marketing orientation, more sophisticated processing technology, and the introduction of PC in all areas will require management with new skills. Enterprises will learn that they have to invest in HR and the current management will learn that "continuous learning" is a must to survive.

The attractiveness of the garment industry for young school leavers is declining. The garment industry, especially in greater Colombo, is getting competition from other industries with a better image and from the service sectors. The industry will develop Programs to make sure to have enough skilled resources available for its expansion.

The importance of joint ventures with foreign manufacturers or groups involved in the supply chain will increase dramatically and will split the Sri Lankan garment world into two main

kinds of enterprises: the enterprises that were able to transfer and to implement the internationally available know how to their factories and the other enterprises as satellites (*e.g.* as sub-contractors) of the best ones.

2.5   Industrial clustering

Linkages: garment-textile

Development planners have long employed "linkage analysis", in the form of input-output tables, to measure the extent to which various activities are connected through their purchase of inputs (i.e., upstream linkages) or sale of outputs (i.e., downstream linkages). Textiles and garments are an illustration of the presence of such linkages: cotton and petrochemicals are the major inputs into natural and synthetic yarns respectively, which are in turn the major inputs into the weaving process, which supplies fabrics to the garment industry. Other linkages in this chain are machinery and parts manufacturers, together with smaller items such as buttons, labels and padding in the case of garments manufactures.
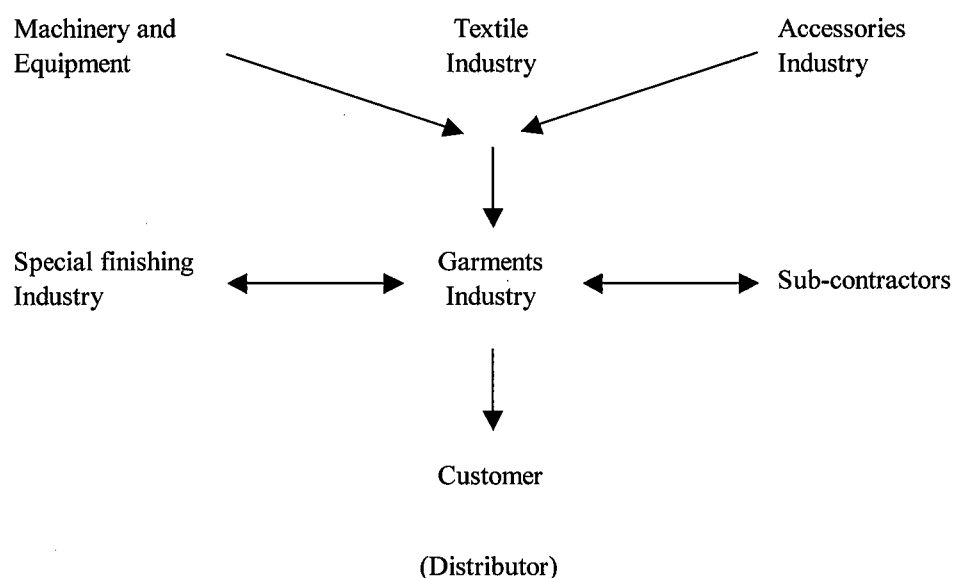
It needs to be emphasized that linkages are primarily an engineering, not an economic, concept. High levels of linkages are not necessarily desirable. Given the diverse array of factor proportions in an industry, it is unlikely that a country will have a comparative advantage across the chain of linkages. For example, Taiwan may still have a comparative advantage in fiber manufacture but it no longer occupies such a position in garments. However, it would be a mistake to assume that garments are associated only with low-income countries. In certain high-fashion locations, such as Milan, it has evolved into a dynamic, high-wage activity. There is scope to move "up market" within the garments industry, but this requires moving from reliance on cheap labor to rely more on other specific skills and capacities.

Much linkage analysis has taken place in a closed-economy framework, which ignores the most important linkage of all, which is to the international economy. To see that linkages and efficiency are quite unrelated, one only has to compare the economy of the former USSR, which was characterized by high linkages (in an input-output sense) and high inefficiency, to Singapore, which displays low linkage coefficients and high efficiency. It is of course technically possible for a country to produce virtually anything - the real issue is, is it internationally competitive? The experience of successful Asian developing countries clearly illustrates that export-oriented activities with limited domestic linkages can contribute significantly to development. Indeed, high linkages may more often be associated with lower

employment and export growth to the extent that they involve the promotion of inefficient, upstream, capital-intensive industrialization.

Clustering

The apparel industry produces ready products for consumption. Its products go without transformation to the shop for sale. The industrial clustering is oriented to the supplying industries and to similar industries supplying specific operations or services.

Machinery and Equipment   Textile Industry   Accessories Industry

Special finishing Industry ⟷ Garments Industry ⟷ Sub-contractors

Customer

(Distributor)

The clustering is backwards and horizontal oriented. Downwards is no industrial linkage.

In the industrial clustering the textile industry as a supplier of the materials is the most important linked partner. This industry delivers not only material but gives also an important contribution for the product development. A similar function has the accessories industry; however its weight is much less. The importance of the presence of the linkage to a textile industry in the country was described at the beginning of this section.

The link to the machinery and equipment industry is the most important source for technological development. In the last decades technological innovations came exclusively from this industry that put a lot of efforts in R&D. The technological upgrade of an apparel enterprise highly depends on the ability to catch the right innovation for its production purposes.

Horizontally there is an important linkage to auxiliary industries producing for the main industry. Typical are washing (*e.g.* washed stone jeans), embroidery (*e.g.* for blouses and dresses) and labeling. A kind of horizontal linkage is the sub-contractors. There are usually SMEs with very limited overheads that are organized to produce only for other apparel enterprises.

A big constraint for industrial clustering is the limited size of the Sri Lankan market and the clear trend to globalization in the backwards industry. The important thing is that the enterprises have to develop a clear marketing and production strategy and build up closer links to the related industries. The value should be more important than the price. The enterprises should be look rather "global" than only in the own country.

3. MASTER PLAN FOR APPAREL INDUSTRY

3.1 Vision After Phasing out of MFA

The three-stage integration process of MFA

The 1994 GATT agreement provided a legal framework for the phasing out of the MFA and its integration into the WTO framework by the year 2005. This process takes place in three stages (see figure).

In January 1995, importing countries were required to "integrate" a certain portion of textile and clothing product categories by removing them from the MFA. Any existing quotas restricting imports of those products were abolished. It was forbidden to introduce quotas again for such products in the future.

Products for integration were chosen from a comprehensive list of categories. Growth rates for remaining quotas were by 16%.
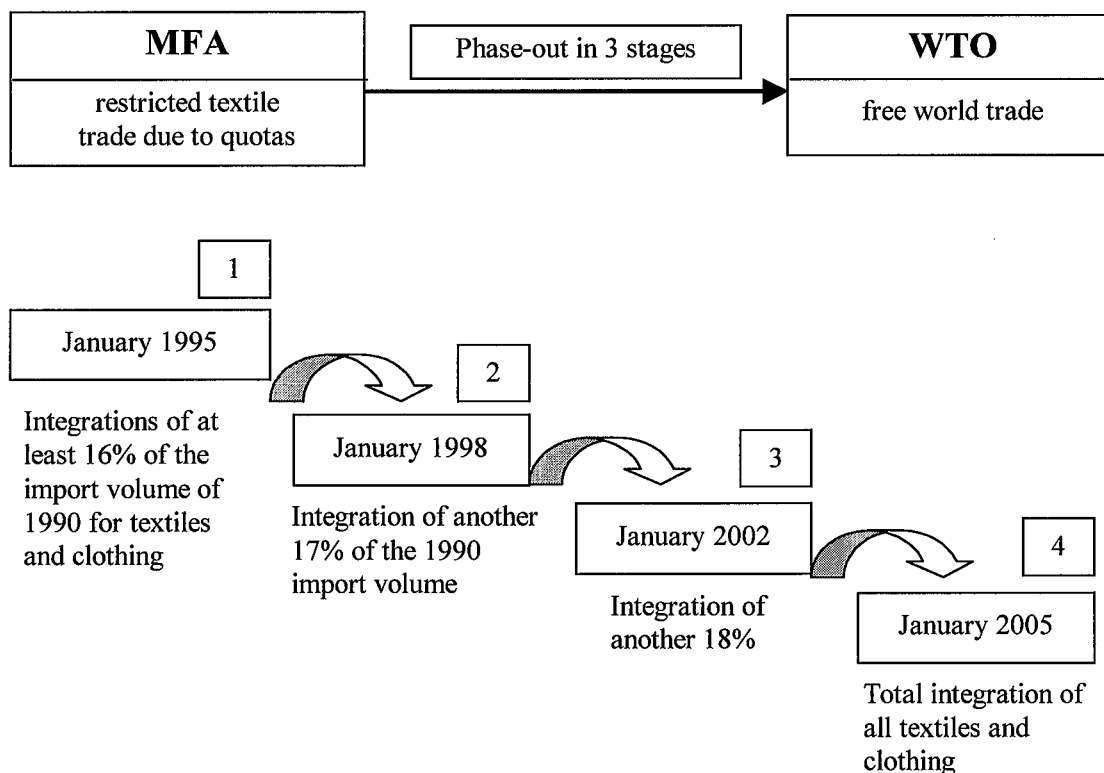
The second phase started on January 1998 when further 17% of the 1990 import volume was chosen from the product list for integration. For the remaining products subject to quotas, the growth rates applying in stage 1 were uplifted by a further 25%.

In January 2002, a further 18% of products will be integrated and growth rates of quotas restricting remaining products uplifted by 27%. Thus quotas, which grew by 14.5% during stage 2, will be allowed to increase by 18.4% during stage 3.

In January 2005, all remaining products, representing 49% of the 1990 import volume should be integrated into WTO and the quotas system abolished.

Trade liberalization for clothing will not emerge on a significant scale until the year 2005 when the remaining product categories will or should be removed from the MFA list. Even in the case of countries, which are not yet, member of the WTO (*e.g.*. China), importing countries have the obligation to proceed with the liberalization process. This is especially important in respect to China. Until the country joins the WTO and undertakes to comply with the rules on tariff reduction and market opening, existing tough controls on China's exports to the West are likely to remain. Indeed, the bilateral agreement negotiated in 1996 involves a toughening of restrictions on some products.

The import countries request considerable flexibility when implementing the product integration process. Because of the different market situation the USA and the EU have adopted different routes. These will also define the position of the two-trade area after the phasing-out of MFA.

USA: The main aim is to prevent further import surges
The USA published a full list of products for integration in 1994. However, the bilateral agreements, which the USA have signed with 41 countries accounting for about 70% of US clothing imports, tend to be more restrictive than those of the EU, both in the breadth of their product coverage and in the specification of import growth rates.

For the so-called "dominant" suppliers, the number of restrained products remains high. Exports of most clothing products by these dominant suppliers were restricted; in addition a growth of 0 to 2% per year is permitted. Dominant suppliers are, among others, Taiwan, South Korea, China, and Hong Kong. For other supplier countries, the number of restrained categories and import growth rates varied.

Number of restrained categories by Asian supplier countries:

- India   13

- Bangladesh   14

- Thailand   21

- Philippines   27

- Sri Lanka   15

For these countries, quotas on most products were allowed to grow by a generous 6 to 7%.

EU: A product-focused approach

The EU has adopted a different route, which fits more closely with the EU's textile policy and takes account of recent trends in extra-EU imports. The EU tends to leave its options open, pending developments in import penetration, the health of the domestic industry and the evidence that exporting countries have kept to their side of the bargain on market access. Thus clothing products with a high degree of import penetration, or those likely to cause most market disruption, can be integrated at the end.

The position of the EU Commission was stated in a communication to the European Parliament as follows: "In view of the prevailing situation of the EU industry, certain effects of the liberalization and integration process also on production and employment could be accelerated or delayed by the selection of products and the timing of their integration or liberalization". This statement is still valid and will determine the negotiation position of the EU when the phasing-out negotiation will begin, perhaps in late 2003.

At present, the EU has concluded bilateral clothing agreements with 49 countries, although not all of them are under the MFA. Not all the countries are subjected to quotas, but many suppliers are subjected to "surveillance".

The EU has placed quotas into product groups – in case of clothing IB, IIB or IIIB – according to their "sensitivity" or level of import penetration. The most sensitive products, *i.e.* in group IB are as follows:

- T-shirts   category 4

- Pullovers   category 5

- Trousers   category 6

- Blouses   category 7

- Shirts   category 8

Sri Lanka has currently import restriction for the categories 6, 7, 8 and the less sensitive product category 21 (mainly anoraks and parkas).

For the dominant supplying countries (China, Hong Kong, South Korea and Taiwan) product categories are also classified by fiber blends with separate quantity restraints applicable to each type.

Also the new Commission of the EU, since November 1999, will continue the trade policy of the last one. Flexibility provisions such as swing (transfer of amounts of unused quotas between product categories), carry-forward and carry-over (transfer of unused quotas to the next year) will remain common in all agreements.

The EU has negotiated tight restrictions until 2004 with several Asian countries, *i.e.* many products fall under quotas with a limited annual growth of 2% or less. These countries are: Hong Kong, South Korea, China, Taiwan, Vietnam, Macao and India. Fortunately Sri Lanka has currently the advantage of having only few clothing products under quota restriction; in addition they have a higher growth rate (all $\geq$ 6%) than the Asian competitors.

The main trade instruments used by the EU are:

- Tariffs

- Quotas

- Surveillance

- Certificate of origin

In a recent report the Commission of the EU drew the attention to the growing importance of exports and the internationalization of the European textile and clothing industry, pointing at the fact that this represented a new challenge to the sector. In this respect, the opening of markets in developing countries is seen as vitally important. Progress in this direction is expected before the Commission of the EU announces details of the phasing out of the MFA and the product integration.

Up to the year 2010, the Commission of the EU examined three possible scenarios:

- High GDP growth, quick opening up of supplier country markets and slow integration of MFA products into the WTO framework. Under this scenario the clothing production is expected to decline as imports increase, while consumption and export of clothing grow more slowly.

- Lower GDP growth, slower quota integration and slower access to the markets of supplier countries. Under this scenario the impact on the European clothing production and employment will be more drastic than under 1.

- Lower GDP growth, quick quota integration and rapid access to the markets of supplier countries. Under this scenario, the problems are expected to be less severe and fewer than under Scenario 2.

Other studies (e.g.. World Bank) forecast a loss, on the basis of the productions figures of 1995, of the EU clothing production of up to 60% until the year 2010. It is expected that the import penetration will increase accordingly. The forecasts show that low cost suppliers will continue to dominate and their import market shares will increase. It should be noted that the projections were made for the five most restricted products and reach as far as 2010. After 2005, as quotas are lifted, the current picture could change substantially. However, the top five suppliers will start off with the advantage of having strong market shares in the most restricted categories. These products are in high demand, and are those from which bulk suppliers stand to gain the most.

Projected Top Five Suppliers to the EU (based on volume)

Category	Top five suppliers (ranked from the largest)	Projected market share in 2005	Estimated trend up to 2010
4 T-shirts	India, China, Brazil, Indonesia, Thailand	49 %	⬆
5 pullovers	Indonesia, India, Hong Kong, South Corea, Romania	51 %	➡
6 trousers	Hong Kong, Pakistan, China, **Sri Lanka**, Singapore	59 %	⬆
7 blouses	India, Malaysia, Hong Kong, **Sri Lanka**, Singapore	70 %	➡
8 shirts	India, Hong Kong, South Korea, Sri Lanka Indonesia	59 %	⬈

Source: M. Majumdar: Dev. Policy Review, 1996; UNIDO

The EU import penetration will rise dramatically also during the last phase of MFA. Under the assumption of a complete phasing out of MFA and a full liberalization of the EU clothing

market, the import penetration is expected to reach 75%. If restrictions for sensitive products remain, the penetration will reach 65%.

Import penetration of clothing in the EU (based on volume)
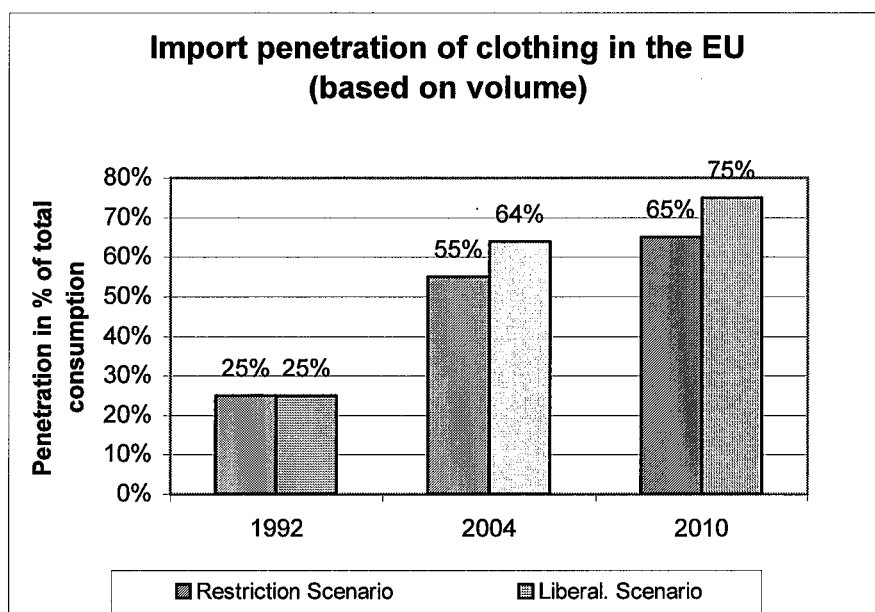
Impact of phasing-out of MFA on extra-EU sourcing of clothing

For the EU the following issues on sourcing remain critical:

- The long-term impact of Turkey's entry into the customs union with the EU.

- The impact of the EU "textile policy", which seek to grant liberalization to the transformation countries in Middle and East Europe ahead of full liberalization of all quotas in the year 2005.

- The entry of Poland, Hungary and The Czech Republic into the EU.

- The impact of the EU "Mediterranean policy" which will grant trade advantage to the Maghreb countries.

- The position of the clothing associations in the member states and of EURATEX, the federation of all national clothing associations.

The authors of a study[6] speculate on the potential benefits to the EU if there were to be a switch in sourcing policies away from Far East in favor of Eastern Europe. These benefits

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[6] Realizing the Opportunities in the New Europe, TOI

would arise in the areas of sales for the EU textile industry, increased employment mainly in the neighbor countries, lower purchase prices for clothing retailers and improved service level.

Basic assumptions after the phasing-out of MFA

- It is likely that those clothing products which are most vulnerable to imports will be the last ones to be integrated.

- Indeed the most import-sensitive items – such as T-shirts, pullovers, blouses and shirts – are unlikely to have their restrictions completely removed after 2005.

- Both the USA and the EU will, also in the future, emphasize bilateral agreements with the supplying countries within the WTO rules. It is expected that the USA will tend to be more restrictive than the EU.

- The USA and the EU are currently leaving their options open pending developments in import penetration and the health of the domestic industry.

- It is likely that the textile and clothing sectors will remain one of the most protected sectors.

- The current customs duties of 4 to 12% will be reduced but are not expected to be zero.

- There is no doubt that import penetration in the developed countries will be higher after 2005 although some restrictions will remain.

- The MFA had a big influence on the investments in developing countries. After 2005 only countries with real competitive advantages will invest to strengthen their position and to expand. Countries without clear advantages will move away from clothing and diversify into other sectors.

- The developing countries prepared to accept that liberalization is a two way street will reach the best conditions for expansion. The bilateral agreements for clothing imports to the USA and the EU will clearly take into account the trade laws and regulations of the country.

- After phasing out of the protections the direct competition mainly from low wage countries will increase. Domestic production of clothing in the USA and in the EU will decrease and more and more manufacturers will use outward processing (OP) or buy directly from extra-EU suppliers.

- The price competition will be fierce. After 2005 the prices will slow down. The profit of clothing companies in countries with quotas advantages and low costs will drop.

- Many enterprises around the world will regret the phasing out of the MFA. Especially in the new industrialized countries the enterprises with the ability to organize the marketing and distribution of clothing will threaten the more fragile market positions being built up by smaller suppliers.

Impact for the Sri Lankan apparel industry

The main question for Sri Lanka is to whether the government should continue to promote the apparel sector even after the phasing-out of the MFA. This arrangement granted to the Sri Lankan industry clear competitive advantages against other countries in the Asian Sub-Continent. Industrialists and economists could argue that this industry belongs to a low-skill, low value-added slow growth and increasingly competitive sector. In promoting the apparel industry the government would use public resources to assist a loser and not a winner[7]. The Taiwan and South Korea industrial policy is moving away from sectors like apparel to focus promotion on other industries like electronics, computers, shipping and telecommunications.

The policy makers have to consider that Sri Lanka's industry is generally in low-technology sectors and that within the industry the apparel industry has a dominating position. The apparel sector has made and continues to make a considerable contribution to economic growth in the country. The sector provides employment, also in the rural areas, earns huge amounts of convertible currencies, and does not require big infrastructure and environment protection.

Irrespective of the post-MFA scenarios, there are two basic forecasts to be considered after 2005:

- The apparel consumption will increase in real terms in the Triade[8] by 1 to 2% on the long-term.

- The apparel production in the industrialized country will continue to decrease to a little sector with very specialized enterprises.

- Manufacturers and distributors will continue to relocate production units to LDCs. They will make joint ventures, use more OP, choose a direct sourcing by own product specifications or buy product developed in the supplying country. In any case the requirement vis-à-vis the suppliers will dramatically increase.

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[7] For this chapter the following study was partly used: C. Edwards, The Uruguay Round and MFA quotas: The textiles and Garments Industries in Sri Lanka; IPS, Colombo, 1996

[8] Triade : NAFTA, EU (with some other West European countries) and Japan

- Losers and winners will be in the countries that will dominate the apparel production: South Asia, China, East Europe, North Africa and partly Central America.

- Low production costs will remain the main competitive sourcing factor; however, this is not only determined by the labor costs but also by productivity and quality level

- After the elimination of the restrictions a fierce competition will replace the current strong market regulations.

There are two contrasting visions regarding the prospects of the Sri Lankan apparel sector after 2005 and a horizon to 2015:

- The Sri Lankan apparel industry has a 20 years successful history in its industrial development. Sri Lanka is generally internationally competitive. Based on the current strengths the country will not lose its comparative advantages to newcomers like Cambodia or Vietnam. In addition, the enterprises will be able to adapt their strategy to the changed market environment and implement the required improvements.

- Sri Lanka will expand its worldwide market share from the current ≤ 1% to 2% in 2010.

Some negative trends in Sri Lanka of the last years could indicate the start of a slowing down of the apparel industry which could lead to a serious decline and loss of competitive edge to large manufacturing countries like China and India or to new competitor like Vietnam.

The trend in the second vision could be stopped and reversed with specific measures to be implemented before the end of 2004. However, also the first vision requires public investments and measures to ensure a friendly development environment.

Final remark: Considering all the major aspects the phasing-out of MFA offers to Sri Lanka more opportunities than threats.

3.2   Framework and strategies

Vision

The Sri Lankan apparel industry is the dominant manufacturing sector of the country and will remain so in the long-term. Its contribution to the GDP and to the earning of convertible currency is, and will be a big asset for the further development of the country.

The public policy and resources should devote special attention to develop an economic environment that will assist this industry to adapt its basic strategy to the changed market conditions after the phasing-out of the MFA. The main issue is the increase of competitiveness in a fierce market environment. This is a big challenge for the political power and the public institutions as well as for the enterprises. Both are requested to invest in order to create a sound basis for development.

The starting position, in international comparison, is good. This industry has the chance to play a role in the globalized textile and apparel world. The next four years offer, under the still protective umbrella of the MFA, the opportunity to further develop the current strengths and to reduce or even eliminate the weaknesses at both macro and micro levels. The efforts require a close cooperation between all players involved.

The years up to 2004 are to be considered as a consolidation and preparation period for the next "open market" phase. After 2005, an aggressive strategy will be required not only to consolidate the achieved position, mainly in the USA and in UK, but also to gain market shares in the large markets where Sri Lanka has a weak position.

The markets concerned will be primarily the USA and the EU and perhaps Japan, secondarily domestic market and the regional markets of SAARC, which have been neglected in the past.

The apparel industry to be integrated into the domestic economy with close linkages to domestic suppliers of the materials required and the services needed. At the same time the industry to be open to use the opportunities of a worldwide sourcing of material. The technology and know-how transfer to be ensured by close cooperation with the machinery industry, the research institutes and industrial joint-venture partners.

The Sri Lankan apparel industry to upgrade its position. From being the supplier of production facilities with relatively cheap labor the industry will grow to become a competent partner for the distributors offering a complete package of products and services.

With the improvement of productivity, overall quality management and logistics the industry to be in the position to compete with the large countries of the region including China.

This vision embraces a period of at least ten years.

Targets

The Sri Lankan apparel industry must strive to expand its business with a product and market diversification.

The main strategic objectives are:

- Consolidation of the position in the USA in the traditional mass market for leisure wear.

- Enter into the upper market segment of the USA with higher added value offering more sophisticated products and diversified marketing.

- Consolidate the market position in the UK, the only EU market where Sri Lanka has built a good market position.

- Expand into the major other markets of the EU where the current position is very weak; the most important national markets are Germany, France and Italy.

- Develop a strategy to enter the Japanese market in cooperation with large distributors.

- Develop an expansion strategy for the SAARC and ASEAN markets where currently Sri Lanka is not present at all. In addition a Program to enter the Gulf markets should also be developed.

- Regain the domestic garment market currently supplied nearly exclusively by imports from Asian countries.

- Further promote the foreign direct investments (FDI) in Sri Lanka, particularly the joint ventures of local entrepreneurs with American and European strategic investors. The focus should be on new product lines with high value added. The foreign investors should not only provide capital but transfer product and processing know-how.

It is proposed that the Sri Lankan apparel industry should set the following quantified targets for its development:

- Increase of the total export from 2.3 billion USD in 1999 to 3.0 billion USD in 2004 and

4.5 billion USD in 2010

- Promote the export in the EU, primarily in the large national markets where the position of Sri Lanka is weak. Part of the expansion target should be achieved in these new markets.

- Increase the domestic sales, currently < 5% of the total sales to at least 10 % during the next five years.

- Achieve in the completely "new" markets like Japan, SAARC and ASEAN and the Gulf a total sales of 300 million USD in 2010.

- Doubling the number of joint ventures with strategic investors until 2005 and further increase this up to 2010. At least 10 factories should start operations within the joint venture.

- Double the students which want to achieve a diploma in garment technology by 2005.

- Increase the GVA by 20% by 2005 and by 30% by 2010.

Basic policy

The basic policy relating to the apparel industry will be reflected in the target or vision for the apparel industry during 2000-2005, when phasing out of MFA takes place; and in the target or vision in the post MFA period of 2005 to 2010.

During the period 2000 to 2005 the target would be to consolidate and prepare for open global competition to enable the industry to: firstly, retain the current markets as USA, European Union (EU) and Canada by effectively competing with emerging competitors to these markets from the Asian region as Bangladesh, Indonesia, Laos, Vietnam, China; and secondly to venture out to develop new markets in the SAARC and ASEAN regions, along with the sourcing of fabric from these regions.

The target during 2005 to 2010 would be to continue the consolidation process and achieve global competitiveness so that Sri Lanka could be the hub in the South Asia/SAARC region with Colombo as the gateway, for the international garment trade.

Broad strategy

To achieve the above target/vision the following strategy covering the areas of marketing, technology and productivity, enterprise restructuring and product specialization, financing and investment, manpower development, R & D, and 'clustering' should be Programmed.

Marketing

- Seek collaborative alliances as joint ventures, and other forms of collaboration in the currently operating markets of USA, EU and Canada.

- Improve and develop direct buyer links in these markets.

- Develop marketing capabilities and a marketing culture within the companies.

- Establish partnerships between Industry Associations and EDB for market intelligence and in identification of potential new markets particularly in the SAARC and ASEAN region in the context of the proposed trade agreements with countries in these regions.

- Promote Colombo as the regional center for the apparel trade activities as exhibitions, fairs, buyer-seller meetings, international seminars and conferences, by providing necessary infrastructure and other promotional measures.

- Develop and promote the image of Sri Lanka made apparel and brand names as a trademark for quality and design.

Technology and Productivity

- Upgrade the level of technology of the SME (which account for 80% of the enterprises) which would improve their productivity and thereby enhance their competitiveness (most SME have outdated technology with which they are able to manage in the present MFA quota regime, but would be unable to operate competitively in the quota phasing out period without upgrading technology).

- Provide access to low cost finance (lack of which is a major impediment particularly to SME) for investment in upgrading technology.

- Grant SME also tax and other concessions for upgrading technology and modernizing their units, if they do not qualify for such concessions under the present criteria.

Enterprise Restructuring and Product Specialization

- Restructure enterprises with a particular focus on shifting to product specialization (from the present manufacture of a range of items by most to meet quota allocations) as specialist manufacturers of specific product lines as shirts, underwear, etc. These would have certain in-built advantages and strengths to compete in globally competitive markets.

- Provide necessary assistance and support for the development a strong consultancy service

for the industry with the participation of international consultants, as industry recognizes the need for competent consultants to advise and assist in restructuring and in improving their operations.

- UNIDO to provide necessary guidelines to SME's on aspects of restructuring after completing the pilot-restructuring project (under present Program) and if possible set up locally a follow-up unit.

Manpower Development

- Develop a formal public-private partnership between industry and public sector managed training institutes as CITI, TT &SC to enable the training institutes to be restructured and effectively managed to meet the needs of the industry, both in terms numbers and quality of trainees (as the present public sector institutions seem unable to meet the industry requirements of trained manpower).

- Universities to be assisted to expand into Programs in design and merchandising.

- University to develop courses specifically in HRD so as to provide a nucleus of HRD managers, as this is a critical factor and the industry has experienced an acute shortage of this category.

Research and Development

- University industry linkages for research to be strengthened by providing grants for such R&D projects.

- Companies to be provided suitable incentives and assistance from MOST to set up R&D Centers.

Financing Scheme and tax concessions

- Capital for investments for expansion, upgrading technology and improving infrastructure should be provided at concessionary terms. One of the major impediments for the industry had been the high cost of capital and therefore a special scheme of providing capital at concessionary terms for this industry through the ADB or other agency.

- Tax and other incentives comparable to those given to the garment industries in competing countries in the region should be granted.

- Part of the garment industry 'cess' on export value should be used to set up a separate development fund termed 'Apparel Industry Support Fund' and this should be used to

supplement the investment by industry on some of the above outlined measures *e.g..* market intelligence work, consultancy costs for restructuring, etc.


3.3 Consolidation of existing markets and promising new markets

Western apparel market trends

Within the large Western economies in the 1990s, apparel markets have become increasingly over-supplied and saturated. In the USA in 1999, consumers spent an average of only 4.3 hours per month on apparel shopping. The number of consumers describing shopping as a "hassle" is constantly growing in Europe and the US. In order to be successful within these four hours, retailers focus on improving the availability and choice of products.

In addition, retailers have been challenged by new retail formats, which have managed to break away from traditional buying procedures, moving product development and buying decisions closer to the customer's day of purchase. While inventory turns of two to four times per year are still very common, "best practice" retailers achieve, more than ten inventory turns, with a strongly positive impact on their financial performance.

Vendors have responded to retailers' challenges with products replenishment lead-times for new products from order entry to delivery of less than six weeks. These are a few of the new requirements, which are often referred to as Quick Response (QR) or Supply Chain Management (SCM).

Level of
Value Added

|				
1970	1980	1990	2000	2010
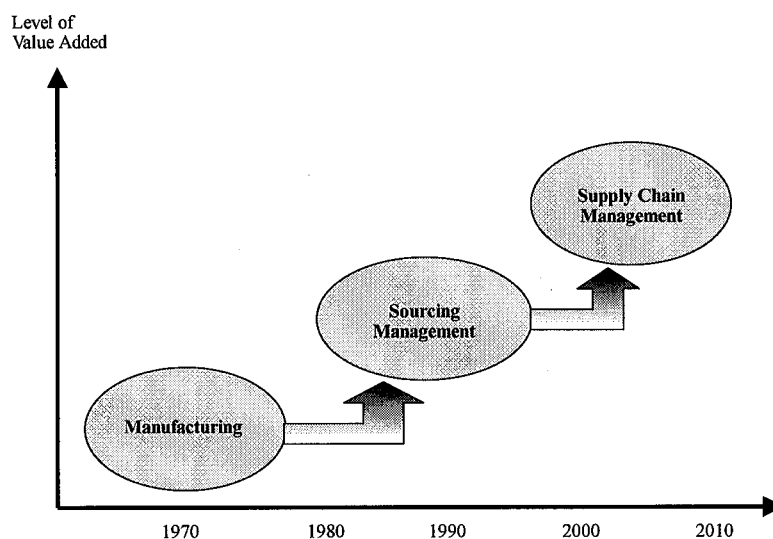
SCM has helped retailers to

- Increase on-shelf product availability and choice.
- Replenish out-of-stock items more regularly.
- Shorten product development lead-times.

While the concept of SCM has been in operation for more than 20 years, it is only in the last few years that SCM-enablers and its technologies such as Electronic Data Interchange (EDI), product barcode labeling, Point of Sales (POS) scanning and Cross Docking have begun to be fully exploited to the benefit of consumer, retailer and vendor.

The improved utilization of SCM technologies and enablers has helped retailers to improve inventory performance, reduce working capital tied-up in several weeks of inventory and allowed an improved return on assets by reducing the backroom and warehouse space required to provide appropriate replenishment. Vendors' SCM services have also diminished the retailer's inherent risk entailed in carrying large inventory positions, especially in fashion garments. Retailers continue to implement SCM, and plan to reduce the amount of inventory held per SKU (stock-keeping unit) by 31% for soft goods and 34% for hard goods within the next three years, whilst at the same time increasing the number of SKU's.

Retailers SCM Needs
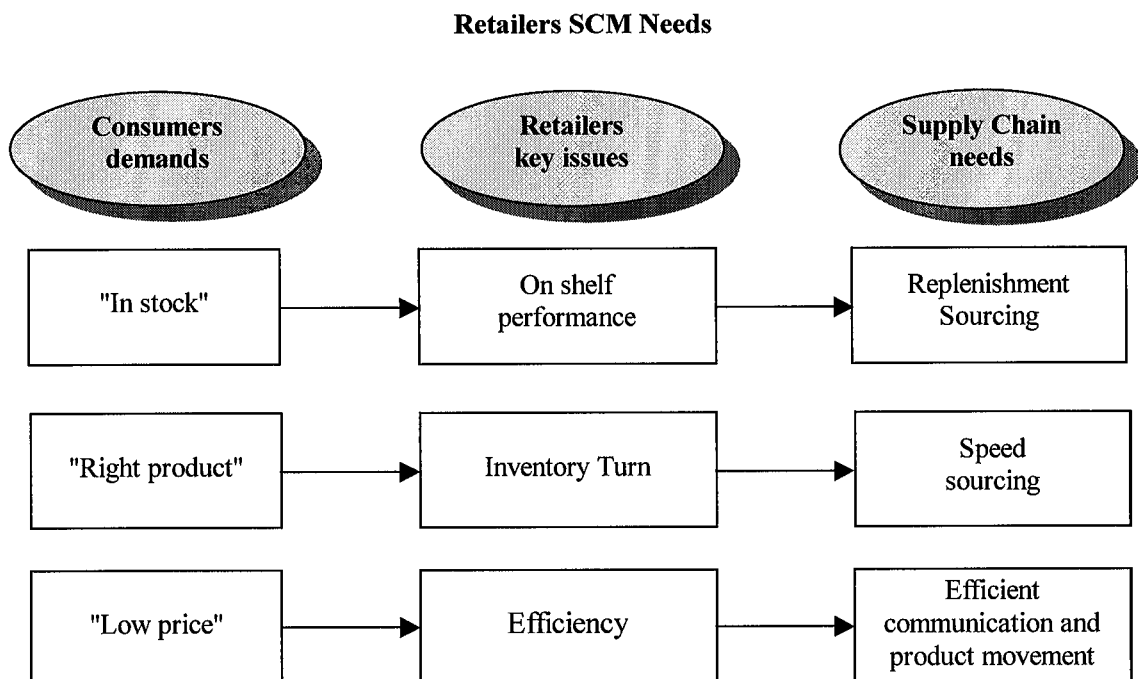
Sri Lanka's Supply Chain Management Challenges

Following the structural change in the Western retail markets, apparel buyers have restructured the method and timing of sourcing. Traditional pre-season orders are increasingly being replaced by "speed sourcing" (last minute ordering), and more replenishment orders (within season ordering).

The new methods of sourcing (Speed/Replenishment Sourcing) have already gained an overall share of 36% of apparel product sourcing budgets, and are growing rapidly. It is expected that the share for apparel and footwear will reach 52% by 2005, taking into account current progress in implementing SCM-enabling technologies.

Reductions in traditional sourcing will decrease Sri Lanka's core competency. As only a handful of apparel exporters in Sri Lanka have already started to consider SCM technologies, enablers or practices, the apparel industry needs to improve its efforts dramatically in order to maintain the current trade volume. Sri Lanka's current market share in the USA in retailers' traditional sourcing budgets would need to double just to maintain the current trade volume. As this would seem to be an unlikely scenario, the apparel industry will have to develop SCM speed sourcing and replenishment capabilities in order to maintain global leadership in consumer products sourcing.

Shift on Western Sourcing Budgets

1999	2005
Speed	Speed
8%	10%
Replenishment	Replenishment
28%	42%
Traditional	Traditional
64%	48%
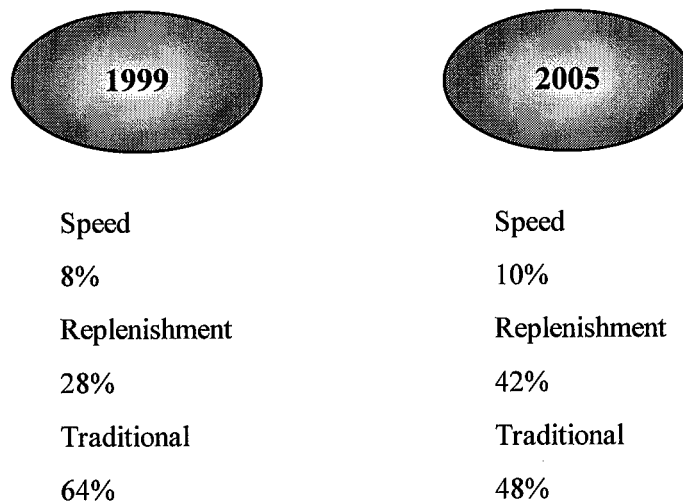
Source: KSA, Atlanta

The highly inefficient processes currently used in overseas exports, and the various numbers of parties involved, provide an enormous potential for Sri Lanka's apparel export industries to increase their efficiency and strengthen their strategic position in overseas sourcing through the adoption of SCM.

Applying SCM technologies and enablers will allow Sri Lanka's export industries to save a lot of money in its supply chain alone. With the implementation of SCM practices, Sri Lanka can get access to the markets for replenishment and speed sourcing. By the year 2005 these markets will be worth more than 100 billion USD in the USA, and thus be larger than traditional sourcing.

The supply chain revolution has had a dramatic impact upon the suppliers of products and services to Western retailers, affecting domestic and export suppliers alike.
Sri Lanka has enjoyed growth in the export trade in apparel to the developed Western markets. However, at the same time substantial market share has been lost to competing suppliers from Eastern Europe, Central and South America, the Caribbean, China and India.
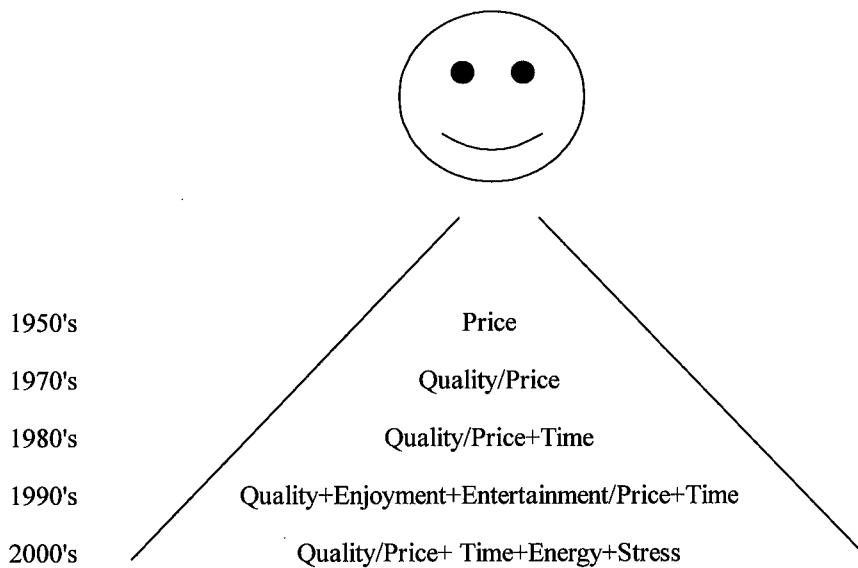
In general, retail buyers in Europe and the USA have changed their buying strategies to the benefit of countries offering speed sourcing or replenishment capabilities and at the expense of the Asian countries.

Top 10 Countries Supplying Apparel to the USA

	1992	1998
Other top ten	2%	3%
Sri Lanka and other Asian countries	25%	19%
Central America/Caribbean	8%	14%
China/Hong Kong	31%	24%

Sourcing processes involving Sri Lanka's exporters are complex, communication-intensive and, due to an overall lack of SCM enabling technologies and standards, generally inefficient. In addition to complexity and inefficiency, sourcing from Sri Lanka suffers the disadvantage of long shipping times to Western distribution centers.

Changing Consumer Value Equation

|	
1950's	Price
1970's	Quality/Price
1980's	Quality/Price+Time
1990's	Quality+Enjoyment+Entertainment/Price+Time
2000's	Quality/Price+ Time+Energy+Stress

Growth in existing markets

The two existing markets of the Sri Lankan apparel industry are the USA and UK. All the other markets are either directly supplied by subsidiaries based in Sri Lanka (*e.g.* German owned factories producing for the German parent company for the European market) or are opportunistic markets where, from time to time, the enterprises take orders from the buying office.

The bulk of the Sri Lankan production is currently in the mass market. Only few enterprises were able to enter into higher segments.

Market Segments

Top (designers)

High

Upper

Mass

Sri Lanka 2005

Sri Lanka 2000
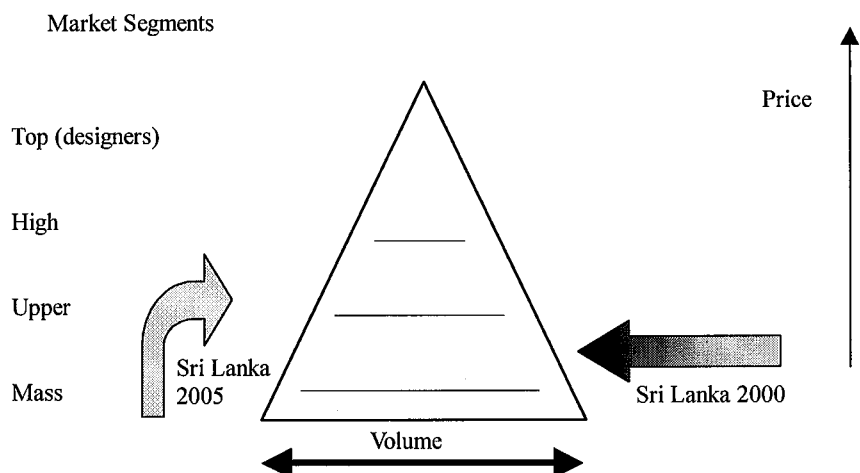
Price

Volume

The mass market requires high volumes and low prices. The enterprises have to minimize their production costs and accept a relatively low value added.

Sri Lanka is losing competitiveness in the low segments. Other countries like China or Bangladesh are in the position to produce at lower costs. One of the assets recognized by the customers is the relatively good quality of the Sri Lankan production in relation to the price. The enterprises should use this advantage, invest more into quality assurance and enter into the medium segments where they can reach a higher value added.
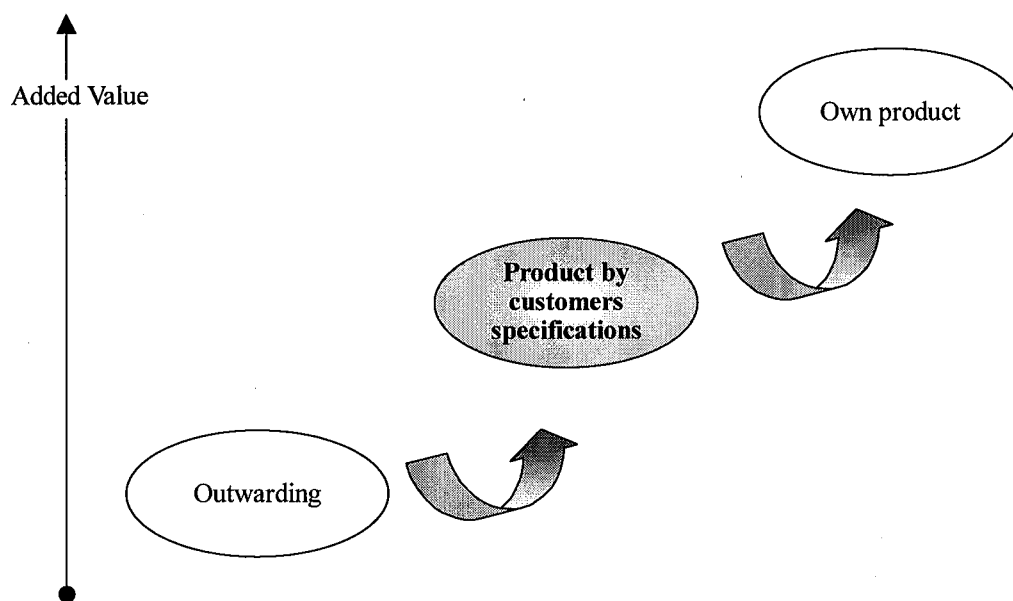

Many enterprises moved from the outward processing to the higher stage of producing complete garments for the customers. In accordance with the market trends in the USA and in UK it is expected that the retailers and the large distributors look more and more for supplying partners who are able to present an own offer.

The leading Sri Lankan apparel companies should invest into creativity and develop own product ranges. The best way would be in partnerships with American and British partners who are operating in the market and who are fully aware of its trends.

Penetration into new markets
The main new markets for Sri Lanka are the large national markets of the EU where the current market position is weak.
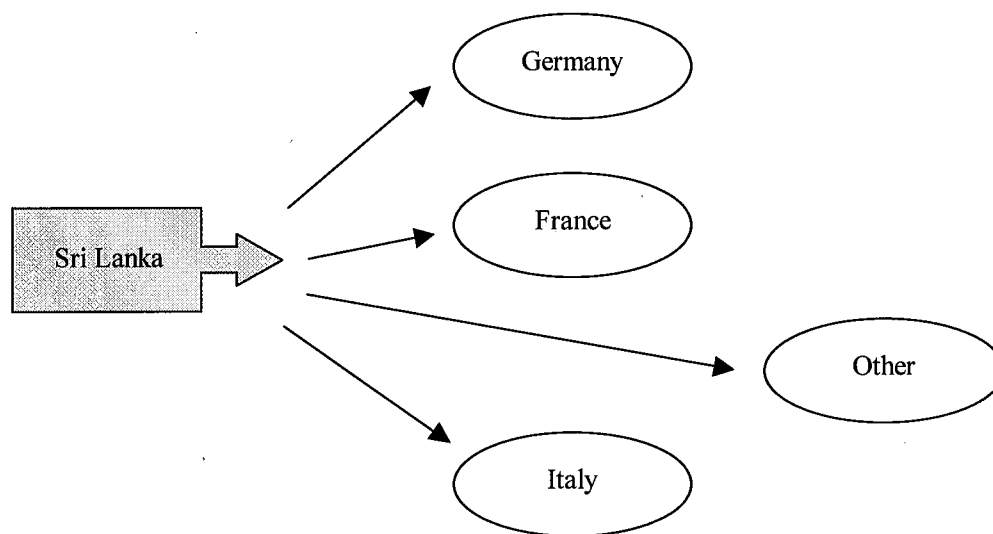
Especially France and Italy, the two national markets with a relatively low import penetration, offer good opportunities also for newcomers like Sri Lanka.

All the other EU national markets offer in principle good business opportunities. As mentioned in the previous sections the import penetration will increase in all markets.

It is advisable for the enterprises not to spill the scarce marketing resources by trying to enter into too many markets. Each enterprise must develop an own strategy in accordance with its abilities and strengths, choose one or two national EU markets, build up specific resources and search for appropriate partners in the country.

Other interesting markets are the Asian markets and Australia

Product-Market Matrix

The table shows the national markets and the product groups that the enterprises should intensively promote. The most important is the leisurewear because it is expected that this product group will grow in the long term and the Sri Lanka industry has already gained a good reputation in this field.

Product		Markets						
		NAFTA USA	EU					Asia
			UK	Germany	France	Italy	Other countries	
Men's outerwear	casual	+++	+++	++	++	++	++	*
	formal	0	0	0	0	0	0	*
Ladies' outerwear	casual	+++	+++	++	+++	++	+	*
	formal	++	++	+	+	++	+	*
	fashion	0	+	0	+	0	0	*
Children's wear	casual	++	+	++	+	+++	+	*
	formal	++	+	++	+	+	+	*
Men's underwear		0	++	0	0	+	+	*
Ladies' underwear		0	+++	++	+	+	+	*
Lingerie, Foundation		+	+++	++	+	++	+	*
Special products		+++	++	++	+	++	+	*
Others		+	+	+	+	+	+	*

+++ highest priority   ++ medium priority   + low priority   0 opportunistic
* For the Asian markets a market research is needed before developing a strategy

The Asian market should be addressed with a newly developed strategy based on a market research. Sri Lanka has seriously to consider how to enter and win a good position in Japan, one of the most important apparel markets of the world.

Focal products

The "focal" products in the Sri Lankan apparel industry should be products with a relatively high labor content and products that require production accuracy. Here the industry can use its actual strengths, i.e. the relatively good product quality, its skilled labor and the still low labor costs.

The "focal" products can be summarized in the picture below:

> Casual garments low or middle fashion content.
>
> Medium-low and medium price segment.
>
> Product (quality) value for money

Marketing strategy

The Sri Lankan apparel industry needs a strong assistance in developing a sound marketing knowledge. This is imperative for the large enterprises but also for the SMEs that want to gain a good market position in a specific segment of the market.

Tailored export assistance to USA and EU

> *As the domestic market in the longer term does not offer satisfactory growth potential for Sri Lanka's garment companies, export will remain most important.*

At the same time a comparison of manufacturing costs as well as social charges shows Sri Lanka to be competitive. Currently one of the most important topics for Western European companies is if and how to outsource their production and it is expected that within the next ten years the garment manufacturing capacities of the EU will be further reduced by at least 50 %. This provides scope for an **export promotion initiative** by Sri Lanka. An Apparel Export Promotion Unit at the Export Development Board (EDB) could provide tailored export assistance. In this unit a Market Observer Unit should be integrated that could provide market information and make contacts.

The export promotion initiative provides for three major competitive strategies:

- Qualifying as a subcontractor to western European manufacturers and/or retailers by carrying out business by buyers' specification (CMT or f.o.b.)

- Qualifying as a supplier to advanced American and western European textile marketing companies/importers who sell to retailers

- Serving American and western European retailers directly in advanced markets.

To carry out CMT or production according to buyers' specification for Western European customers Sri Lankan manufacturers have to make contact with buying agents in the region who are co-operating with European agents or contact directly the importers or the large distributors. European agents offer liaisons between Sri Lankan manufacturers and European manufacturers and help to make the first contact. In other cases as in Hong Kong, for example, subcontracting is run via agents, who also organize production capacities, quality control, and shipment. To assist in organizing subcontracting, a subcontracting exchange should be set up.

However, it must be pointed out that at present only the larger sized companies would qualify for subcontracting or production according to buyers specification as most of the smaller as well as some medium sized companies would have difficulties in meeting the increased requirements as to quality, service, management and organization. Before starting to

concentrate on exports, almost all companies investigated need long-term training in the areas of production, product development, quality, costing and service.

The second option of qualifying as a supplier to advanced EU garment marketing companies/importers who sell to retailers requires the capacity to purchase raw material as well as separate product development based on knowledge of the needs of EU markets. Selling via importers very often is a way of penetrating foreign markets and normally offers a good entry to the market although the Sri Lankan manufacturer would not be able to control the markets and the sales properly.

The third option of serving directly USA and EU retailers directly by selling own designs and own collections is difficult. Several countries that began as a subcontractor for the American and Western European markets failed in targeting these markets with their own collections. On the one hand those retailers that are used to sourcing from abroad e. g. mail-order, department stores and chains very often carry out subcontracting or import according to buyers specifications, and have their own import organization. On the other hand, the smaller, independent and specialized retailers are not able to buy from abroad, as they have neither the organization nor the personnel for handling imports. One possibility of targeting these retailers would be to build up a cooperative of Sri Lankan companies and try to sell their own products via their own sales organization in one of the European fashion houses, *e.g.* Imotex in Neuss. However, it would be absolutely necessary for them to have their own representative in this fashion house, paid a fixed salary by the cooperative because otherwise it would be very difficult to find a sales agent. Furthermore, selling in a fashion house requires production from stock, as sales in fashion houses are immediate sales and no orders for production are placed. This of course is risky and only possible for companies with very professional product development. After production, shipment and sale of the first ranges the sales representative in the fashion house would give repeat orders to Sri Lankan manufacturers for immediate production. This requires the availability of raw materials, stored at their own risk, production capacities that are available immediately as well as shipment via airfreight. At present, this option would thus only be applicable to the larger companies that already have long-term export experience.

Benefits will be higher with the second and third strategies, because they incorporate far more value added work in product development, incoming and outgoing logistics, and in marketing. Obstacles to this strategy are many; in particular the marketing-orientation is currently weak.

To optimize the general efforts of the Export Promotion Unit, however, the companies themselves have to prepare the way and have to create the favorable company culture, organization and strategy for export. Before going into export each company has to prepare this step, possibly with external assistance by

- Selecting priority markets in the USA and in EU
- Collecting background information in the selected markets
- Analyzing import and export statistics
- Acquiring specific market data for its product groups
- Analyzing import/export regulations
- Acquiring logistical need.

After preparation the next steps in the process of penetrating export markets are to

- Make contacts and set up meetings
- Make a visit
- Make go/no go decision
- Develop marketing strategies
- Decide on brand
- Decide on product and presentation
- Define the requirements in regard to the person responsible
- Decide on sales organization
- Decide on packaging and shipping
- Decide on export administration
- Decide on export financing
- Develop export budget
- Decide on pricing and selling conditions.

After all these decisions have been made the company can think about starting to penetrate the markets. However, it must be noted that the preparation phases need time and that the decisions should not be taken without careful consideration of all chances and risks. It must be clearly stated that penetrating export markets needs a long-term perspective. Conquering any new market takes something like 3 years, although CMT takes less time. Export success patterns take off slowly but success breeds success so that a company should not abandon its efforts after a first or second season disappointment, as it will thus lose an investment and an untested opportunity.

In addition, it must be stated that export business needs great effort and heavy investment in planning, in human resources, in organization and in logistics. Without investigating the targeted markets, without preparing an initial investment and operating budget for entering the markets, without an own export responsible who knows how to deal with customs, and all the logistical requirements and who is also able to communicate with future clients, export can not be realized successfully.

3.4   Technology and Productivity

Productivity is the key element in improving the competitiveness of the Apparel Industry. The current level of Productivity in the industry is low due to the high proportion of unskilled and under trained employees and weak management. As the international expert aptly put it the general impression of a manager of a garment factory from a developed industrial country on seeing a Sri Lankan garment factory would be "a lot of people and a big confusion".

Productivity improvements go hand in hand with improvements to technology and innovativeness under the guidance of a well-informed management. Far greater emphasis should be given to production planning and control, work study ergonomics and workplace engineering coupled with worker motivation Programs. eg: 5S and Kaizen. Various figures are being quoted for the level of productivity of the Sri Lankan Apparel industry and no systematic serious study has been undertaken to evaluate the productivity in the industry so that industry as a whole could work towards improving a quantitatively measurable level of productivity. The Central Bank figure of productivity given as a ratio of export earnings per employee does not adequately reflect the productivity of the industry.

There is a need for improvement and upgrading of technology at every level and stage of productivity. However, such improvements to technology should be directly linked to the improvement of productivity, efficiency and consistency of quality. Use of IT techniques, microprocessor and mechatronic adaptations have to be incorporated to upgrade the current methods of production.

3.5 Enterprise restructuring and product specialization

Program of productivity improvement

In international comparison the Sri Lankan garment industry has a relatively high productivity. However, further improvement could be reached. This first recommendation is related to productivity in a broader extent.

In most Sri Lankan factories an increase of productivity of at least 30 % is possible. The main areas of improvement are:

Workplace engineering
- Development of workplace/operation description
- Development of requirement profile
- Testing of potential candidates
- Fix necessary technology, attachments, etc. for workplace
- Make workplace sketch
- Description of operations and work plan
- Method training

Improvement of internal workflow
- Description, listing of operations per product
- Calculation of minutes per operation
- Introduce SAM
- Balancing of workflow
- Time measurement
- Decision about, for example, modal manufacturing

Control of productivity
- Development of a SAM system
- Productivity measurement
- Development of performance-oriented salary payment
- Introduction of modern, computer-based information systems

The Program should enable the factories to reach a similar level in the functional areas of production and sourcing as in the industrialized countries. These measures are important, especially to take advantage of low direct labor costs and the skilled domestic workforce.

The key to unlocking the potential productivity improvement in every company is a productivity audit with the aim of evaluating productivity levels of the factories in relation to industrialized countries' standards and develop an implementation plan necessary to bring the productivity up to an higher competitive level and assess the investment required both in equipment and in personnel development.

Directly related to this area are measures concerning work study, meaning methods and workplace engineering, the introduction of better internal workflow, production planning and control systems and better motivation through individual bonus schemes.

The bases for effective monitoring of productivity are accurate standard times, named SAM and expressed in minutes. The method of measuring productivity currently in use of garments per operator is outdated and useless since none of the visited factories in Sri Lanka makes only one style all the year. The standard time will at the same time offer a fairer basis for individual bonuses to the direct operators. In the area of determined standard times and using them as a basis for payment by results there are some efforts under way. However, these efforts should be conducted more consistently and should concentrate on the specific needs of the Sri Lankan industry.

In addition to the introduction of SAM, factories need to provide systematic workplace descriptions, to identify the machinery and attachments needed as well as the required qualification of the operator. Similar to this is the use of systematic product descriptions by using blank forms, where the individual garment is broken down into separate operations needed. By breaking down the operations and by use of SAM the calculation and the planning of production and the effective use of operators' skills becomes easier. Furthermore, this product description provides the basis for balancing the production lines.

The Program of productivity improvement requires assistance in industrial engineering and production organization. The expertise of the garment engineers in several Sri Lankan technical institutions can be very useful. Additionally, production audits run by external consultants in selected factories would help the industry in a further development.

The smaller companies need the assistance of classroom training as well as practical courses on the shop floor. To expand the transfer of know-how from the technical institutions to the factories the membership system might be intensified.

Quality improvement

As mentioned earlier, the current quality level of the Sri Lankan factories is in line with the requirement of the USA mass garment market. However, the technical analysis showed areas of improvement, especially if some companies want to enter in to EU markets, which have higher quality requirements.

Besides price and service, quality is one of the most important success factors in the EU markets. Even now, when the price consciousness of European consumers is increasing and spending in value terms is decreasing, quality remains an essential factor.

At the moment, the quality demands of EU manufacturers, retailers and consumers would be difficult to meet. This applies to the quality of the fabrics used, color shading, the quality of processing and finishing and especially to the quality of garment construction. Garment construction not only covers the fit of the garment, but also the level of sophistication of the patterns and of the processing. For example, for classic men's shirts in the medium to upper price range very often a felled sleeve seam is required. For other products facings for neck edges are standard, while simple seams would not be accepted. The same is true for blind stitching for skirts.

In particular, if Sri Lankan manufacturers aim at the upper end of the market and try to reduce the share of basic articles, the improvement in quality will be substantial.

To achieve improvements in quality, we recommend that a quality audit should be conducted in combination with the introduction of professional quality management.

The quality audit aims at measuring actual performance, quality costs, systems used and training made available in the companies. On the basis of the audit results quality management can then be implemented.

The following phase targets the implementation of professional quality management. First, quality targets have to be set, depending on the current fashion and price range and the existing customers. Next the technical equipment has to be maintained in order to make quality targets achievable. Quality control mechanisms have to be established for systematic quality checks and maintenance plans for the machinery.

Equally important is the design and implementation of control procedures as well as the development of organizational aids, *e.g.* quality check lists for purchasing and production.

Included here are supply evaluation forms, operation descriptions with tolerances, daily quality inspection forms and sample test forms.

Organizational improvements also include the nomination of the quality personnel, responsible for clearly defined quality issues. Training units have to be introduced which in the longer term can be run by the quality manager. To guarantee adequate training for the Sri Lankan garment industry the assistance of the technical institutions as well as external consulting is extremely important. External consultancy might address the larger companies directly as well as lecturer staff.

The overall target must be to set up a quality circle covering the whole process of purchase, design, production and sales.

Especially for the heavily export-oriented clothing and textile companies the long-term target of quality management should be ISO 9000. More and more western European manufacturers and retailers, *e.g.* mail order, demand ISO 9000 to reduce the costs of their own quality inspections.

Profitability improvement

Recently, the profitability of the Sri Lankan apparel industry went down. The reasons for this are multiple. Besides the charges for the salaries and the cost of raw material the companies suffer from some overheads and financial costs. But equally important is the fact that some companies do not have a proper profit calculation system.

To improve profitability in the longer term Sri Lankan companies therefore have to introduce cost analysis, then reduce production costs, think about re-financing and finally reduce their overheads, if these are above average. Structural profit improvement is the basis for long-term competitiveness and wealth:

Cost analysis
- Clarify cost structure: material, utilities, direct labor, social costs, charges for foreigners, overheads
- Benchmarking competitive cost structure.

Production costs
- Rationalization Program
- Investments

- Training

Overheads
- Overhead value analysis
- Restructure overheads.

In the context of the initial cost analysis the development and implementation of a proper costing system to make meaningful prices for full products, or services in the case of CMT, is the most urgent measure. The implementation of a costing system goes hand in hand with the introduction of SAM (see previous recommendation). In order to make decisions about the future strategy of a company, in-depth information about costs and profit per product are essential. This information would also allow some companies to make the right decisions about CMT work. As soon as companies are able to make clear calculations for their CMT work, negotiation with the larger manufacturers about prices becomes much easier.

The implementation of a cost accounting and information system goes hand in hand with the implementation of a marketing and sales planning and controlling system. This instrument provides the company with all the information necessary for entrepreneurial decisions about the future strategy of the company with regard to distribution channels, customers and marketing activities. For example, the evaluation of export to western European manufacturers versus retailers as well as the concept of marketing and sales activities would become much clearer.

Alongside the pure monitoring instruments the rationalization and reduction of actual cost factors must be a main target for an efficiency improvement Program.

As far as rationalization within production is concerned, the measures required to increase productivity (see previous remark) become important, such as improvements in work-place engineering, better internal workflow, the use of attachments, or in other words industrial engineering in general.

In addition to the re-organization of direct labor an analysis of overheads would have a positive effect on the cost situation.

A reduction of raw material costs might be very difficult to achieve, especially for the smaller companies, as they are heavily dependent on fabrics imported by local wholesalers and sold to them at very high prices. Even in the case of direct purchase from the textile companies in

India or Pakistan smaller companies must accept higher prices due to the smaller volumes. The introduction of a production planning and control system as well as the collection network plan would allow a more efficient purchase and use of raw materials.

Finally, a reduction in interest rates which, at the moment, have a negative impact on the profitability of Sri Lankan companies, must be the target of the macro-economic recommendations. It is strongly recommended that the government should create the financial environment to make money availability easier to garment companies. In addition, the existing possibilities of financing need to be made better known to companies to ensure better exploitation of these funds.

3.6 Manpower Development

Harnessing and developing human resources is the key to establishing a sound manufacturing base for the Sri Lankan Apparel Industry. It is the responsibility of the industry to accept this fact and take appropriate and meaningful measures to improve the present situation. In order to be more effective a much stronger private sector/ industry involvement in matters of human resource development are required. At present it appears that the Government, MID, MST, MVTRI, ME&HE through their various training institutions and Programs are taking the main initiative in this direction. There needs to be a major change in this situation where the industry participation goes further than the role of an advisor from a distance.

Unskilled Labour

The Sri Lankan Apparel Industry is characterised by a very large proportion of unskilled workers. This is true of the industry throughout this region. If Sri Lanka is to deviate from this position move towards a more knowledge based industry, this major weakness in the human resource base has to be addressed.

Composition of Operative Grades

Occupation	Number in Employment	Percentage
Mechanics	3014	01
Operators	124444	53
Helpers(unskilled)	69255	29
Checkers	21572	09
Line leaders	3207	01
Cutters	2585	01
Ironers	6919	03
Others	7905	03
Sub Total	238901	100

Source: VET plan on Textile & Garment Industry – TVEC

Management

The ratio of managers/supervisors to total number of workers is far too low for an industry striving to climb up the technological ladder.

Composition of Technical (Management) Grade

Occupation	Employees	
	Number	%
Quality Assurance Manager	454	8
Cutting Manager	391	7
Quality Controller	2950	48
Pattern maker	645	11
Merchandiser	824	14
Work Study Officer	581	10
Designer	128	2

Source: VET plan on Textile & Garment Industry – TVEC

Furthermore, the number of technical managers is totally inadequate for the number of factories in the country. The ratios between technical management occupations and employees are as follows:

Occupation	Ratio with Employee
Quality Assurance Manager	566
Cutting Manager	657
Quality Controller	87
Pattern maker	399
Merchandiser	311
Work Study Officer	422
Designer	2018

Source: VET plan on Textile & Garment Industry – TVEC

Greater number of technical manager occupations will be necessary to sustain a competitive industry.

IT and EDI know how has to be included in all management training Programs.

Urgently Needed Human Resources

The industry appears to be weak and vulnerable in the following categories of manpower.

- Designers and stylists
- Marketing and merchandising managers.

The MST Program with ADB assistance has made substantial progress in establishing a course in Apparel Design at the UOM.

However, no institution has yet come up with any proposal to remedy the situation with respect to(2) above. Here again the lack of awareness of the training needs of the industry in the long term by those who are running the industry is clearly seen. At present, almost all training initiatives are taken by the academia and the training institutions of the state, while the industry has been happy to play the role of employment provider for the those trained.

Strengthening the Training Institutions

There is an immediate need for the re-structuring of the training institutions TTSC and CITI with greater private sector participation for these two institutions to play a more effective role. CITI in particular as the direct industry support institution should have demonstration, technical, advisory and consulting capabilities related to the newer developments in the industry.

The University academics conducting apparel study Programs have very little or no opportunities to participate in important technical exhibitions overseas. As a result after their initial training through the university they become progressively ineffective as the industry moves forward with new technological advances. Particularly the teachers of the Design Program who will be given an initial training and exposure overseas will not be able to function effectively unless a mechanism is devised for them to travel to fashion fairs on a regular basis. These are well established practices in all the leading teaching and training institutions for the apparel industry the world over.

3.7 Research and Development

The Sri Lankan Apparel Industry competing in world markets and marching towards a knowledge based high-tech environment should have its own indigenous R & D back up through local centers of higher learning. This should cover areas of production, marketing and management. Institutions such as University of Moratuwa (postgraduate research), Institute of Policy Studies, Postgraduate Institute of Management (UoSJP), University of Kelaniya Department of Industrial Economics should be playing a major role in this area. Research is expensive and there should be a mechanism to evaluate research proposals and provide funding to carry out the necessary research. Some possible areas for R&D would be continuing updating of the industry database aimed at obtaining accurate figures for levels of

productivity anthropometric studies with a view to preparation of size charts for garments to the Indian sub-continent, mathematical modelling and development of software for production planning and control, Operations research covering all aspects of the Apparel Industry from fabric supplies to final shipment.

Enhancement of competitiveness through clustering, innovations and developments (mechatronics and production equipment and digital printing)

3.8   Financing scheme, FDI and tax concessions

Nearly 80% of the apparel enterprises expressed the need of additional financial resources for investments in machinery and technology. Mainly the SMEs through their association expected that the MID will grant subsidies for modernization of the factories and support the companies with financial tools in concessionary terms. According to the estimation of the association and to the survey, the demand for subsidies and borrowings during the next 5 years is estimated to be around 1 billion Rs. The enterprises expect that only a small part would be loans on commercial terms. Of course, if the apparel industry makes efforts to upgrade the production technology with new investments, then the demand for financial borrowings will increase.

It is highly recommended that the government set up a financial plan to secure enough funds to meet the borrowing demand.

The financial support of internal R&D, *e.g.* the creation of new product lines or the implementation of new production processes, should come from internal resources. The basic R&D for further technological development and the transfer of new technology is a task of the government. Some public support would be necessary, including the increased support for the technical institutes at the University and technical colleges.

Foreign direct investment (FDI) will also play an important role for the development of the industry. The government and BOI should improve the incentives for the creations of joint ventures and/or strategic partnership between local entrepreneurs and foreign investors. The main target of this Program is to attract investment from the developed countries, but more important is the transfer of know how to the Sri Lankan companies. The injection of capital alone is not sufficient to prepare the apparel enterprises to successfully compete after 2005.

The incentives and the tax allowances should create a favorable environment to attract highly qualified experts to come and work in Sri Lanka for a period of time and train Sri Lankan in the enterprises. The universities and the colleges give a basic technical preparation to the young people. Also important is to ensure that "best practices" are transferred to young engineers and economists in the enterprises.

In addition, in connection with FDI, incentives should be developed for scholarships and training in apparel factories in the USA and in Europe.

3.9   Clustering Program

The apparel industry is a supplier of goods that directly go into the shop and are usually sold to the end consumer without any transformation.
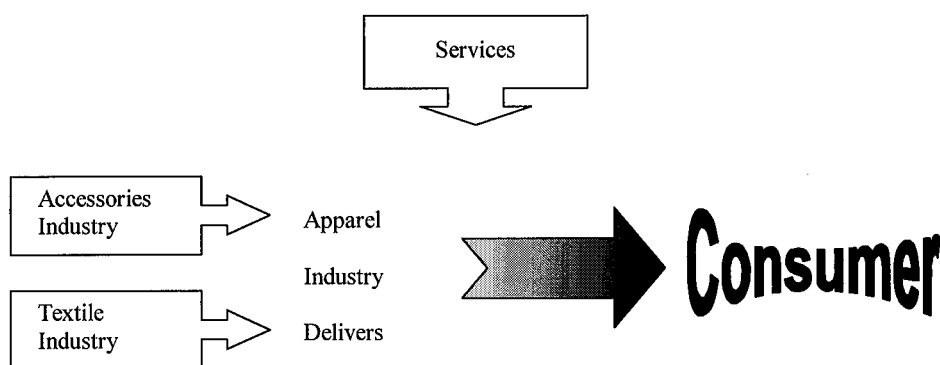

A clustering Program should be developed backwards to the suppliers of textile products, mainly fabrics but also yarn, and the suppliers of the many accessories required producing a ready-made garment. Furthermore, the provider of services, like logistics, should be integrated in a complete clustering Program of manufacturers and services providers. It is assumed that the importance of reliable and inexpensive services would be vital for the further development of the apparel industry.

Within the clustering a sub-contracting system must be consider and developed. Most of the many SMEs, more than 500, will highly depend, after the phasing-out of the quota system, upon a close cooperation with larger enterprises having their own marketing and product development. SMEs could take over production tasks and integrate them in a global production planning. It is advisable for some SMEs to take the way of high specialization by building up very specific know how or taking over specific operations.

There are very good examples in the EU and in the USA of fruitful clustering and subcontracting within the industry. The success of Benetton in Europe and worldwide is based on an excellent subcontracting system with hundreds of independent manufacturers that since many years are integrated in the Benetton sourcing system. Many of them have developed unique skills combined with a very high productivity.

Large brand names do not have large own production capability. They use specialized SMEs for specific products, e.g.. skiwear, anoraks, or for specific operations, e.g. embroideries. SMEs are much more flexible; they can produce also small quantities at competitive costs and usually run the enterprises with low overheads.
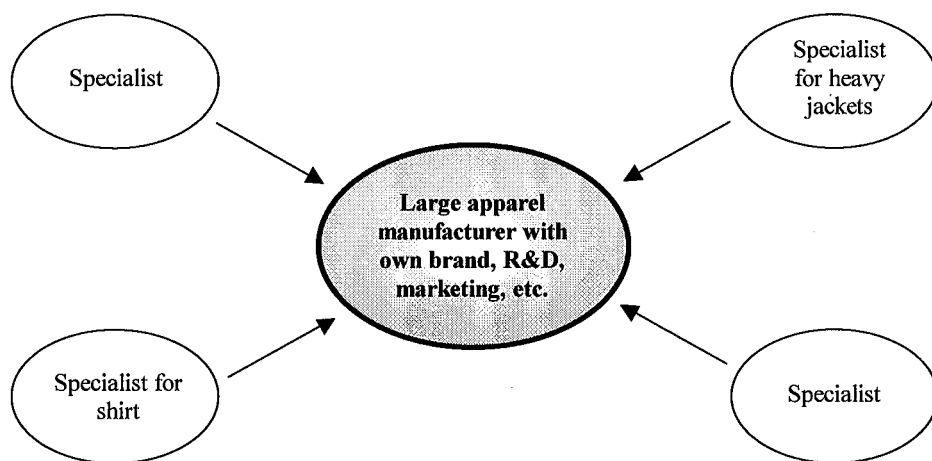
The introduction of the Goods and Service Tax (GST) in April 1998 encouraged the vertical business integration in a similar fashion as the European VAT (Value Added Tax) supported the growth of the subcontracting system. GST is charged only on the value added of intermediate products.

A clustering within the apparel industry seems to be much more efficient than to strongly promote a backwards integration to the textile and accessories industry. The liberalization moves of the Sri Lankan government allowing the free import of all the material required was one of the best decisions for the further development of the apparel industry. The domestic textile industry does not need special subsidies. They have to find out how to exploit the advantage of proximity to the customers offering good products and a better service than the overseas competitors. Domestic producers could provide fashion-printed knits better and faster than any importer. However, they must have the right technology, the processing know how and the requested quality.

4.   ACTION PROGRAM (2000 – 2004)

Action Programs to be implemented in the short term (2000 to 2004) should be designed respectively for the private sector, academia and the public sector, as proposed below.

1)   Program to be implemented by the private sector

(i)   Promote cooperative relations among enterprises for exchange of information and experience; organization of workshops with specific subjects on production issues

(ii)   Initiate "Sub-Contracting Exchange Office". This office should be placed in a major association or be integrated in the Textile Quota Board that will finish to operate at the end of 2004. The manager in charge should have a computerized file with the relevant information of the factories and daily reports on demand and offer of apparel production.

(iii)   Establish a Garment Export Unit (GEU) within the EDB. This unit should provide basic assistance and tailored export assistance to the enterprises (on the basis of cost sharing). Integrated to this unit should be a Market Observer Unit that could provide continuously market information and make contacts. Some assistance in building up a GEU might be given by other organizations with a long experience in textile promotion (*e.g.* ICE from Italy, Hong Kong export promotion).

(iv)   Initiate a market study to explore the expansion opportunities in the large EU markets outside UK. This study should provide an information basis on the consumption and distribution of garments and give concrete recommendations on how to penetrate the markets.

(v)   Initiate a collective productivity improvement Program. This Program should be a combination of seminars, workshops and consulting work directly in the factories. The objective is to improve the overall productivity of the factory including the utilization of new productions systems (*e.g.* Team working system). This Program should embrace: workplace engineering, optimization of the internal workflow and production controlling. This Program should enable the factories to reach a level similar to the one in the industrialized countries in the functional areas of production and sourcing.

(vi)   Initiate a Program for the introduction of new process technology and systems like Quick Response and Supply Chain Management. This Program should also include an implementation phase directly in the enterprises and the introduction of internationally accepted time measuring systems such as General Sewing Data (GSD).

(vii) Initiate a working group to promote a better utilization of computer technology in the apparel industry, primarily in CAD/CAM, including computer assisted production management.

(viii) Initiate a working group of apparel and textile enterprises to improve the links between both industries, especially in consideration of the changed requirements of the market. The domestic textile industry should be integrated in the Quick Response Program as well as the importers of the textile products that are finished in Sri Lanka.

(ix) Create "Quality Circles" where the quality managers regularly discuss issues of quality assurance and controls and help each other to improve the standards and to introduce new quality methods.

(x) Create a "Logistic Working Group" with the target to initiate a strong cooperation between the apparel enterprises and transport services providers. The markets require a reduction of the lead-times; joint efforts in this field are thus imperative.

(xi) Initiate a scheme of "Compliance" within enterprises with respect to labour laws and environment, to be in line with ILO regulations.

2) Programs to be implemented by academia

(i) Promote and assist expansion Program of the Department of Textile & Clothing of the University of Moratuwa. The objective is to enhance the qualification of the student and to increase the number of the graduates.

(ii) Support CITI to prepare more and well-qualified middle management personnel in all areas of the enterprises, primarily in the production but also in the introduction of computer-based systems.

(iii) Initiate a post-graduate scholarship Program for Sri Lankan graduates for research work in well-reputed textile and clothing institutes in industrialized countries.

(iv) Develop a long-term education Program for the apparel industry that integrates the several public and private institutions and colleges in the country. The higher education (University of Moratuwa and Open University), the technical colleges (CITI, GIMI, Phoenix, etc.) and the institutions involved in vocational training should develop a common "ten years Program" in cooperation with the industry.

(v) The Moratuwa University, in cooperation with other Institutes and professional associations, should create and institutionalize a consultancy Program for the apparel industry with a pool of local and international experts in different disciplines. The government should consider the option to subside specific consultancy Programs for a certain period of time. With the technical assistance of UNIDO it is also possible to start an "Apparel Consultancy Coordination Bureau". This office registers consultants, plans and coordinates contracts, reports, coordinates the verification of consultants, promotes services, etc.

(vi) Set up a Methods Study Laboratory at the University or CITI. The objective is to compensate the lack of experience primarily in the SMIs in this field. This unit should promote actively the methods and the range of possibilities for improvement of industrial operations.

3) Programs to be implemented by the public sector

(i) Revise the old labor law. The "new" labor law should consider the specific requirements of the largest industry of the country. The law should allow a high degree of flexibility and utilization of manpower, facilitate the introduction of modern technology to improve productivity, encourage a remuneration of the manpower based rather on performance than on time, and keep the additional salary charges at a low level. The law should consider that the apparel industry is labor-intensive and the success highly depends upon the total labor costs.

(ii) Initiate a special Program in promoting FDI particularly in the field of strategic partnership. These partnerships should include not only financial investments in tangible assets but ensure a transfer of know how to the Sri Lankan enterprises.

(iii) The government should initiate a special development Program for the SMIs in the apparel industry. Funds should be available for restructuring, productivity improvement, introduction of new technology and training.

(iv) The Ministry of Finance should channel, through the local banking system, a special fund offering to the enterprises long term financing on concessionary terms. The terms should be comparable or better than the credit lines offered to the apparel industry in other countries.

(v) Under specific circumstances the Government should consider to subsidize the transport costs of apparel goods to distant markets, when transport by air is an acceptable way to ensure the goods in the shop on time, by the creation of such mechanism as "centralized hubs" or "air bridges".

(vi) Mobilize the facilities and resources available at BOI to establish strategic alliances and partnerships.