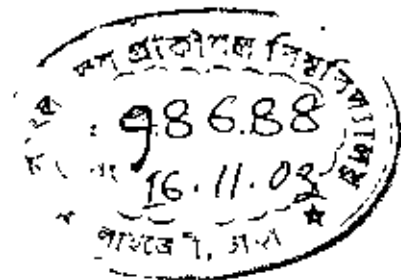


STUDY OF GROWTH POTENTIAL OF TEXTILE INDUSTRIES IN BANGLADESH AS A BACKWARD LINKAGE TO GARMENTS INDUSTRY

By

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This project paper is submitted to the Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, towards partial fulfillment of the requirement for the degree of Master of Engineering in Industrial and Production Engineering (IPE).




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This Project Paper titled "Study of Growth Potential of Textile Industries in Bangladesh as a Backward Linkage to Garments Industry" submitted by Parvez Ahmed Khan, Roll No. 9608026P, Session – 1995-96-97 has been accepted as satisfactory towards partial fulfillment of the requirement for the degree of Master of Engineering in Industrial and Production Engineering (IPE) on October, 2003.


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It is hereby declared that this Project Paper or any part of it has not been submitted elsewhere for the award of any degree or diploma.



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ABSTRACT

Textiles have been an extremely important part of Bangladesh's economy for a very long period of time for a number of reasons. The textile industry is concerned with meeting the demand for clothing, which is one of the basic necessities of human life. It is an industry that is more labor intensive than any other industry in Bangladesh, and thus plays an important role in providing employment for people. Currently, the textile industry accounts for 45% of all industrial employment in the country and contributes 5% of the total national income. At present Bangladesh yarn manufacturing mills are fully capable of meeting the requirement of export quality knit yarn thus providing scope for maximum value addition in knit RMG export. Bangladeshi textile mills are capable of meeting 80% of domestic demand of yarn & fabrics, about 80% yarn & knit fabrics for the export oriented knit RMG industry but can meet only 20% of the fabrics for the export-oriented woven RMG industry. The rest 80% requirement of fabrics for woven garments are being imported which costs about 70% of its export value. The export earning from woven part of RMG is still more than 55% of total earning from RMG. As such in real sense the net export earning from woven garments is not more than 40% of its export value. To increase the real export earning from RMG & also successfully confront the post-MFA era, which is less than one and half years away, it is essential for Bangladesh to develop a strong textile-manufacturing base. Considering the overall situation of textile and garments sector the main objective of this paper is to study the growth potential of textile industries in Bangladesh as a backward linkage to garments industry through estimating the demand of textile products (fabrics & yarn) for domestic & export market upto 2004-2005, determining the number of different type of textile units required to full-fill the demand, estimating the amount of investment required to set-up those units, studying price competitiveness of Bangladeshi textile products and studying the government's policies to develop textile sector. From the overall study it is found that there is good growth potential of textile industries in Bangladesh if government modifies some of its policies for this sector and give financial, infrastructural and utility support.

List of Abbreviations:

RMG: Readymade Garments

BGMEA: Bangladesh Garments Manufacturer & Exporters Association

BTMA: Bangladesh Textile Mills Association

BTMC: Bangladesh Textile Mills Corporation

MFA: Multi Fiber Agreement

WTO: World Trade Organization

GATT: General Agreement of Trade & Tariff

EU: European Union

EC: European Community

GSP: General Systems of Preference

ROO: Rules of Origin

RC: Regional Cumulation

SAARC: South Asian Association for Regional Co-operation

SCA: Substitute Cash Assistance

BTC: Bangladesh Tariff Commission

DEDDO: Duty Exemption Drawback Organization

TEU: Total Equivalent Units

TDA: Trade Development Agreement

NAFTA: North American Free Trade Agreement

CFR: Cost and Freight

AIT: Advance Income Tax

IDSC: Infrastructural Development Surcharge

L.F. License Fee

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Chapter-I Introduction

1.1. General Introduction

Textiles have been an extremely important part of Bangladesh's economy for a very long time for a number of reasons. The textile industry is concerned with meeting the demand for clothing, which is one of the basic necessities of human life. It is an industry that is more labor intensive than any other industry in Bangladesh, and thus plays an important role in providing employment for people. Currently, the textile industry accounts for 45% of all industrial employment in the country and contributes 5% of the total national income.

1.2. History of the Textile Industry in Bangladesh

Traditionally, artisans working in small groups, in what are often referred to as cottage industries, produced most of the textile in the sub-continent. There were many highly skilled artisans in the area which at present is Bangladesh. In fact, from prehistoric times until the Industrial Revolution in the eighteenth century, East Bengal was self-sufficient in textiles. Its people produced Muslin, Jamdani, and various cotton and silk fabrics. These were all well regarded even beyond the region as they were manufactured by very skilled craftsmen.

The material produced by the artisans of Bengal started facing vigorous competition from the very beginning of eighteenth century after the growth of mechanized textile mills in the English Midlands. This eventually affected cottage industry to a great extent and automatically reduced the number of Bengali workers skilled enough to produce such high quality fabrics.

The fabric produced and dyed in British factories flooded the Indian markets. In time, its importation became one of the points of contention in the growing independence movement of the subcontinent. As separation from Great Britain was becoming a foreseeable reality and local production again profitable.

After 1947 and the partition of East and West Pakistan from India, most of the capital and resources of Pakistan came under the control of West Pakistanis. The textile industry thus stagnated in East Pakistan as momentum for development shifted from the eastern part of the country to the west. The west also grew more cotton than the east, which was used as an incentive for developing the industry in the west instead of in the east. The majority of all industries in the east were also owned by West Pakistani industrialists.

When Bangladesh gained its independence from Pakistan in 1971, the new government nationalized the textile industry, as it did with many other businesses in which West Pakistanis had been the principal owners. Although there were some Bangladeshi industrialists, they did not form a large or politically powerful group and thus had to surrender control of their factories to the government as well. All of the country's textile factories were then nationalized and organized under the Bangladesh Textile Mills Corporation, or BTMC.

The industry remained under the control of the BTMC until 1982-83. Bureaucratic obstacles combined with other problems such as low productivity in the labor force, lack of planning, indiscipline, lack of accountability, and poor machine maintenance and operation resulted in the reduction of profits.

The government thus gradually denationalized the production of textiles. Factories were privatized, beginning with the dyeing and weaving units. Since now, much of the industry has been privatized through auctions and other means.

After 1995 a considerable number of different types of textile industries have been setup in private sector. Now about 97% of total number of textile industries is in private sector.

1.3. Overall Position of Textile Industries in Bangladesh

The Textile Industry of Bangladesh until 1977-78 was basically domestic oriented. Textile Industries of Bangladesh first entered into export market through Ready-made Garments in 1977-78 and since then the export oriented ready-made garment industry of the country made a spectacular growth of fabrics & hosiery products during the last decade. Due to dependency on imported fabrics & accessories the real foreign exchange earnings from exports of garments from Bangladesh is only 25% of the total value in case of woven garments while that from knit garments is upto 80%.

At present yarn & fabrics manufacturing process of textile sector represent/ make a total investment of Tk. 1,2000.00 million and this sector, as a whole, provides direct employment to about 2.7 million people. At present Bangladesh yarn manufacturing mills are fully capable of meeting the requirement of export quality knit yarn thus providing scope for maximum value addition in knit RMG export. Local fabrics manufacturing mills are capable of meeting 80% of local demand for yarn & fabrics, about 80% of yarn & knit fabrics demand of export oriented RMG industries and only 20% of the woven fabrics demand of export-oriented RMG industries.

Despite these achievements, the growth of the textile sector, having large domestic as well as export market potential, is hindered by large scale of smuggling, leakage from RMG bonded warehouses, high energy cost, erratic power supply, duties & taxes on spare parts, accessories & consumables, high interest rates and bank charges, shortage of skilled & specialized manpower and cost of doing business.

It is essential to develop a strong textile-manufacturing base to successfully confront the post-MFA era, which is only one & half years away. Bangladesh has already been severely affected due to granting of duty-free and additional quota access by EU to Pakistan. It is absolutely imperative that the current production units are provided with necessary assistance with appropriate policy support and incentive to encourage increase in production and investment to fill the demand gap to the RMG sector, by 2004.

In post MFA regime it will be impossible to sustain the present size of the RMG sector without a viable and vibrant backward linkage as countries like India, Pakistan, China, Indonesia who are the suppliers of fabrics to our RMG, are also our competitors in the RMG sector. These countries are preparing for the post MFA regime by investing enormously in the textile and RMG sectors for maximizing their value addition.

1.4. Objective

Considering the overall situation of textile and garments sector the main objective of this paper is to study the growth potential of textile industries in Bangladesh as a backward linkage to garments industry through estimating the demand of textile products (fabrics & yarn) for domestic & export market upto 2004-2005, determining the number of different type of textile units required to full-fill the demand, estimating the amount of investment required to set-up those units, studying price competitiveness of Bangladeshi textile products and studying the government's policies to develop textile sector.

Chapter - II

Production Process of Textiles

2.1. Introduction

The textile industry has seen the application of many new technologies over the centuries. However, the basic steps have remained the same. What is known as the textile industry includes all the steps necessary to transform fiber into fabric that is ready for stitching, sold either in the market or used in the RMG, or ready made garment, sector. These basic steps are spinning, weaving or knitting, and a combination of dyeing, printing and finishing.

2.2. Spinning

The principal materials used in the spinning sub-sector are raw cotton and synthetic fibers such as viscose and polyester staple fibers. None of these materials, however, are produced in Bangladesh on a large scale to meet the existing demand. The reasons for this are complex.

Cotton needs to be grown in fields, and then ginned, which is the removal of seeds from cotton. At present, the cotton produced in Bangladesh is of an acceptable standard. However, the increased cultivation of cotton in this country is not feasible because the crop requires large amounts of land for a substantial yield. In overcrowded Bangladesh, farmers choose to grow rice over cotton. Locally grown cotton currently meets only 4-5% of the total requirement. The remaining 95% of the cotton needed are imported at very high prices. The production of the synthetic/man-made fibers used in the textile industry requires fairly advanced technology and investment.

Once the raw materials have been obtained, spinning is the first step in textile production. This is the process by which natural or synthetic fibers are cleaned and twisted into yarn. The raw materials first move through the blow room where all impurities are removed, for natural fibers only and the fibers are rolled into laps. The laps then go through a carding machine, where they are cleaned further and formed into slivers, thick and loosely spun yarn.

In order to produce combed yarn, the fibers need to undergo further processing in the comber machine where the short strands are removed, and the remain processed into sliver. The sliver is then fed to the draw frame, and speed/roving frames where they are twisted to form what are called rovings. The rovings are finally placed in spinning frames where further twisting and drafting take place, and yarn is produced. The yarn is then spun around a bobbin or cone, using autoconers or cone winding/reeling machines, packed and marketed.

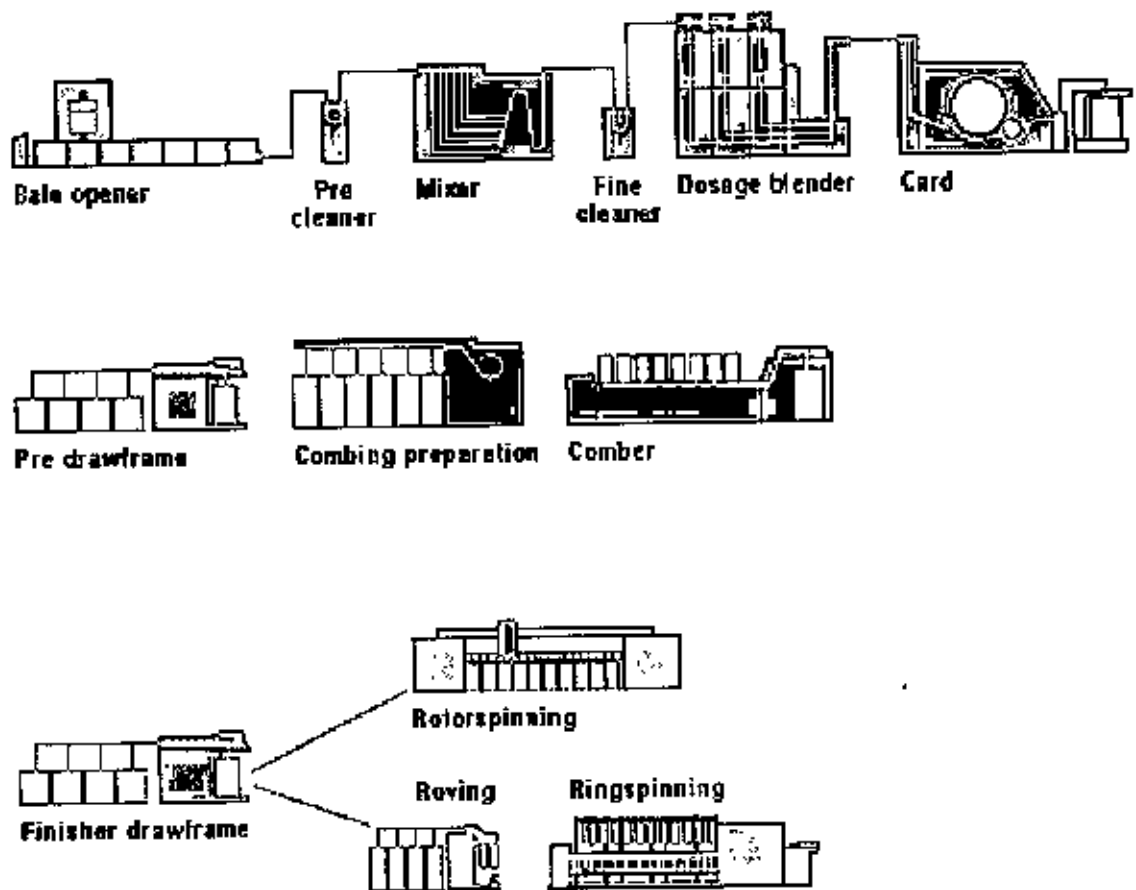


Fig – 2.1: Production Process of a Spinning Mill

2.3. Weaving and Knitting

Next the yarn is made into grey, the early stage of fabric processed using looms or knitting machines. The name indicates that the material has no color at this point. These are fairly simple procedures and can even be done by hand, as they were for many centuries in cottage industries. Weaving produces cloth that has a rigid structure, such as the material used for making trousers, shirts, bed sheets, etc.

Prior to weaving the yarn is wrapped around beams and dipped in a size, an adhesive, which when dries gives the yarn a rigid and uniform structure. This yarn is then fed into the looms and called the warp. A thread of yarn, called the weft, passes between alternating warp yarn with the aid of a shuttle, air jet, or rapiers.

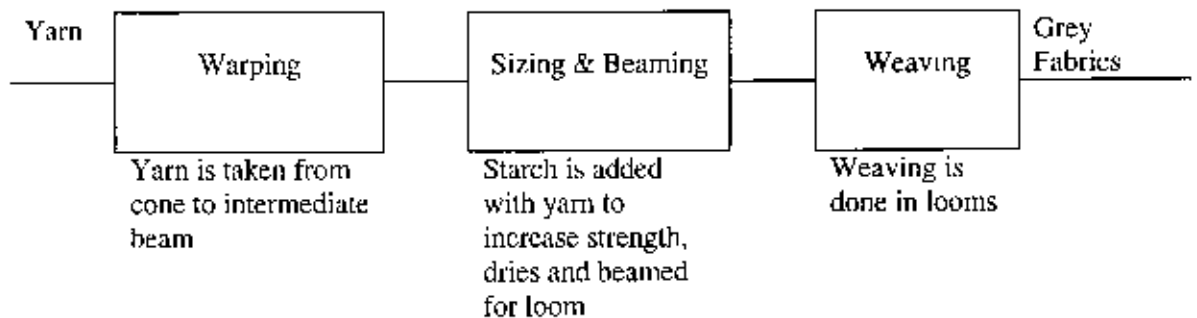


Fig – 2.2: Production Process of a Weaving Mill

Knitting, however, can also be used to make grey. Instead of looms, circular knitting machines are used for knitting. These machines use needles fed with yarn that move in an up and downward motion and knit interlocking arrangements of yarn. Knit fabric is much softer and more flexible than that of the produced on looms, and is commonly used for producing articles of casual wear such as tee shirts, and under garments.

2.4. Dyeing, Printing, Finishing

The grey then undergoes the three steps of dyeing, printing, and finishing. After the grey is inspected, it goes through a process called the batch method when it undergoes scouring, bleaching, and dyeing. Scouring is the treatment of grey in chemical solutions in order to remove the size, natural fats, waxes, proteins, and other impurities, and to make the fabric hydrophilic, which means it no longer repels water.

The bleaching process is next. It is essential in giving the cloth a clean white color. It is done using one of two different methods: bleaching with dilute hypochloride solution at room temperature, or by using hydrogen peroxide solution at elevated temperatures, usually 80 to 90 degrees Celsius. The latter method usually results in better and longer lasting whiteness, however is the more expensive of the two methods.

The scoured cloth is then dyed, and then printed on. Printing is done using perforated rollers that allows certain chemicals and colors to diffuse through the holes. After the printing has been completed, the fabric is washed, soaked in chemicals under elevated temperatures for color fixation, and then washed again.

Knitted fabrics are loaded on to a jigger machine, which performs the processes of scouring, bleaching, or dyeing. The fabric then moves on to a machine called either de-watering or de-twisting machine, which removes water from the fabric. The fabric then goes through a shrinkage tensionless drier which is designed for drying, shrinking, and relaxing the knitted fabrics.

The final process before the fabric is ready for stitching is compacting. During this step the fabric is steamed and ironed between a roller assembly. The fabric is then folded and is ready for marketing.

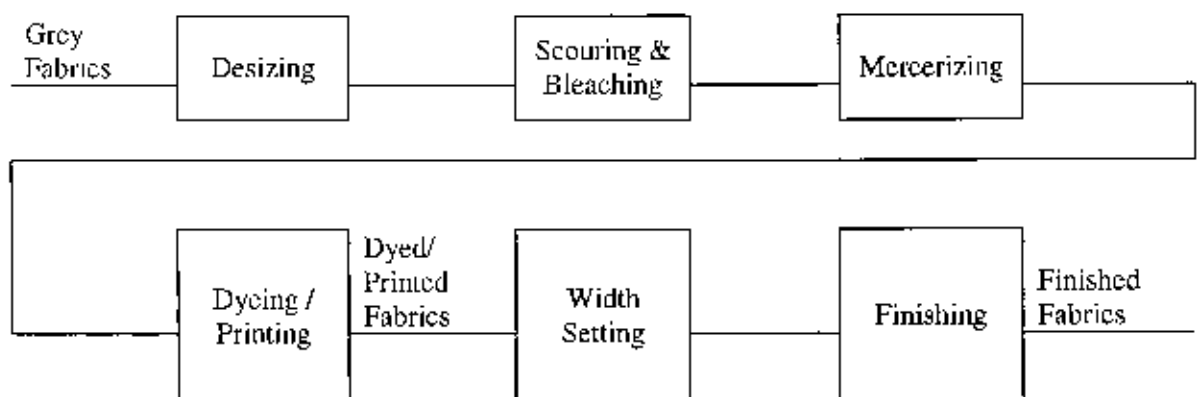


Fig – 2.3: Production Process of a Dyeing-Finishing Mill

Chapter –III

Present Position of the Textile Industry in Bangladesh

3.1. Introduction

Today, the textile industry of Bangladesh can be divided into the two main categories: the public sector and private sector. Each of these sectors has its advantages and disadvantages. Currently, the organized private sector dominates, and is also expanding at the fastest rate.

Public Sector

The public sector is that portion of the industry controlled by organizations that are part of the government. The factories in the public sector enjoy certain privileges such as government funding. However, in Bangladesh, factories in the public sector are not well supervised. There are frequent changes in officers, and many of these officials do not have a personal interest in the factory for which they are responsible. In addition, the equipment in this sector is not well maintained, as much of the money allocated for this purpose is not spent as planned, but is wasted through corruption and poor accounting.

Private Sector

The most productive of the three categories is the private sector. This, as the term suggests, is made up of those factories owned by companies or entrepreneurs. Since the owners of such factories are directly affected by their performance, they take an active part in planning, decision making, and management. Most of these factories also have machinery that is superior to those in the two other sectors because the owners are well aware of the connection between their equipment and their profits.

The rural group of private textile producers includes operators of handlooms and a number of organizations which employ rural women, such as BRAC, or the Bangladesh Rural Advancement Committee. The Handloom industry provides employment for a large segment of the population of Bangladesh. The industry also supplies a large portion of the fabric required by the local market. Factories in this sector are usually well looked after by the owners and are quite productive, considering the equipment available.

However, the inferiority of their machinery, mostly due to their narrow width, means that the fabric production is slow, and usually falls short of the quality needed for export.

3.2. Structure of Textile Industry of Bangladesh

Ministry of Textile conducted a survey in 1995, Table 3.1. shows the structure of textile industry of the country showing major sub-sector wise machine and production capacity.

Table-3.1: Structure of the Textile Industry of Bangladesh (1994-95):

Industry	Units	Installed Capacity	Annual Production Capacity	% of Capacity
A. Textile Spinning:				
A.1. Ring Spinning				
Public Sector	27	604,000 Spindles	42.50 milln. Kg	25.16%
Private Sector	100	2,390,032 Spindles	118.20 milln. Kg	69.98%
Sub-Total:	127	2,994,032 Spindles	160.70 milln. Kg	95.14%
A.2. Rotor Spinning				
Public Sector	15	40,822 Rotors	8.20 milln. Kg	4.86%
Private Sector	00	-	-	-
Sub-Total:	15	40,822 Rotors	8.20 milln. Kg	4.86%
Total of A :	142		168.90 milln. Kg	100%
B. Weaving:				
B.1. Loom with Spinning Units				
Public Sector	8	2,370 looms	37.40 milln.mtr	4.69%
Private Sector	16	4,513 looms	91.20 milln.mtr	11.43%
Sub-Total:	24	6,883 looms	128.60 milln.mtr	16.12%
B.2. Weaving in Decentralized Private sector				
Ordinary Power-loom	110	7,432 looms	142.00 milln.mtr	17.80%
Specialized loom:				
Cotton	242	5,250 looms	97.04 milln.mtr	12.17%
Synthetic	745	21,318 looms	430.00 milln.mtr	53.91%
Sub-Total.	1,097	34,000 looms	669.04 milln.mtr	83.88%
Total of B:	1,121	40,883 looms	797.64 milln mtr	100%
C. Handlooms	212,131	514,456 looms	925.00 milln.mtr	100%
D. Hosiery/Knitting Units				
Domestic	334	3,130 body m/c.	115.00 milln.mtr	31.43%
Export-oriented	254	4,363 body m/c. 1,309 cir. knut	251.00 milln.mtr	68.57%
Total:	588		366.00 milln.mtr	100%
E. Dyeing, Printing & Finishing				
Semi-Mechanized	175		255.00 milln.mtr	39.05%
Mechanized	75		398.00 milln.mtr	60.95%
Total:	250		653.00 milln.mtr	100%

Source: Ministry of Textile GOB.

In 1994-95 total capacity of spinning mill was 168.90 million kg out of which 118.20 million kg being about 70% was under private sector and the rest 50.70 million kg being 30% was under Public Sector. Though in spinning public sector mills capacity was about 30% of total capacity but in weaving it was only 37.40 million meter being 4.63% and the rest 95.37% was in private sector. If we include the Handloom Sector, which is basically a 100% private own then the total share of private sector in weaving was 2.17% only. In knitting and processing industries (dyeing, printing & finishing) share of public sector was almost zero. At that period total capacity of knitting units was 366.00 million meter out of which 251.00 million meter being 68.57% was export oriented and the rest 115.00 million being 34.43% was for domestic consumption. The capacity of processing industries was 653.00 million meter out of which 398.00 meter being 60.95% was of mechanized mills and rest 255.00 million meters being 39.05% was of semi-mechanized mills. A very few of the mechanized mills was then being able to produce fabrics for export oriented RMGs'.

3.3. Present Position of Spinning Industries

Our textile spinning industries are divided into 2 (two) sectors or parts. One is public Sector (BTMC) and the other is private sector.

After 1994-95 no spinning units has been setup in public sector rather 3-units having total 55,144 spindles have been laied-off and 11-units having total 207,500 spindles have been closed. On the other hand, a total of 46-spinning units including 17-rotor spinning units have been setup in private sector till 2002 with a total 650,940 spindles & 61,708 rotors (equivalent to 617,080 spindles approximately). Besides these, 32 units in private sector completed their BMRE by including a total of 152,332 spindles & 17,324 rotors (equivalent to 173,240 spindles approximately) within the same period. The structure of spinning mills in 2002 stands as shown in Table 3.2.

Table – 3.2: Structure of Spinning Mills as on 2002:

Industry	Units	Installed Capacity	Annual Production Capacity
1. Ring Spinning:			540.00 million Kg
Public Sector	13	341,356 Spindles	
Private Sector	146	3,193,304 Spindles & 26,464 Rotors	
Sub-Total:	159	3,534,660 Spindles & 26,464 Rotors	
2. Rotor Spinning:			
Public Sector	15	40,822 Rotors	
Private Sector	17	52,568 Rotors	
Sub-Total:	32	93,390 Rotors	
Grand Total:	191	3,534,660 Spindles & 119,854 Rotors	

Source: Ministry of Textile, GOB and Bangladesh Textile Mills Association (BTMA)

Among the above units some of the units are producing export quality yarns. The production capacity of export quality yarn in 2002 is presented in Table 3.3.

Table – 3.3: Production Capacity of Different Types of Export Quality Yarn:

Type	Capacity (in Million Kg)
For Knit Fabrics	200.00
For Woven Fabrics	95.00
For Terry Towel	25.00
Synthetic	10.00
Total:	320.00

Source: Bangladesh Textile Mills Association (BTMA).

The production capacity of the spinning industries increased from 168.90 million kg to 540.00 million kg i.e. more than 3 times from 1994-95 to the end of 2002 and the total credit goes towards our private entrepreneurs. The growth in production capacity of spinning industries as well as production during 1994-95 to 2001-2002 is presented in Table 3.4.

Table – 3.4: Production Capacity and Production of Yarn:

(Figures in million kg)

Year	Production Capacity		Production	
	Capacity	Growth	Production	Growth
1994-95	168.90	-	123.00	-
1995-96	180.00	6.57%	132.00	7.32%
1996-97	220.00	22.22%	160.00	21.21%
1997-98	250.00	13.63%	179.00	11.87%
1998-99	349.00	40.00%	258.00	44.13%
1999-2000	443.00	25.14%	320.00	24.03%
2000-2001	470.00	10.63%	348.00	8.75%
2001-2002	520.00	10.64%	380.00	9.19%

Source: Bangladesh Textile Mills Association (BTMA)

3.4. Present Structure of Weaving & Knitting Industries

After 1994-95 no weaving or knitting units has been set-upped in public sector, but at the other hand about 165-weavin units and 28-knitting units have been set upped in private sector till 2002 with a total 6,210 shuttle-less looms, 17,960 shuttle looms and 683 circular knitting machine with all types of supporting machines and most of the old units went for BMRE. The structure of weaving & knitting mills in 2002 stands as shown in Table 3.5.

Table – 3.5: Structure of Weaving & Knitting Mills as in 2002:

Industry	Installed Capacity	Annual Production Capacity
A. Weaving:		
1. Power Loom		
Shuttle-less Loom	6,210	1,130 million meter
Shuttle Loom	39,905	
Sub-total.	46,115	
2. Handlooms	574,000	975 million meter
Total (A):	620,115 looms	2,105 million meter
B. Hosiery/Knitting	3,227 Knitting Machine	320 million Kg

Source: Bangladesh Textile Mills Association (BTMA)

Total production capacity of woven fabrics increased to 2.105 million meters at the end of 2002 from 1,722.64 million meters as it was in 1994-95. Total growth in this sector within this period was 22.19% only. The capacity of power loom units increased to 1,130 million meters from 799 million meters as it was in 1994-95. Some of the power loom units are producing fabrics for export oriented RMGs'. On the other hand, total production capacity of hosiery / knitting units stands at 1,440 million meters (320 million kg) from 366 million meters (82 million kg) as it was in 1994-95. Total growth in this sector within this period was 293% and most of increased capacity is being utilized for producing fabrics for export oriented RMG's.

The production capacity of export quality woven & knit fabrics are shown in Table 3.6.

Table –3.6: Production Capacity of Different Types of Export Quality Fabrics:

Type	Capacity
Woven Fabrics	420 million meter
Knit Fabrics	260 million kg

Source: Bangladesh Textile Mills Association (BTMA)

3.5. Present Structure of Textile Processing Industries

After 1994-95 as in case of other sub-sectors no textile processing units has been set-up in public sector, but at the other hand about 24-nos. of modern textile processing units for woven fabrics have been setup in private sector till 2002 and a considerable number of old units went for BMRE. Beside these 28 numbers of mechanized processing unit for knit fabrics has been setup in private sector within this period. The structure of textile processing industries shown in Table 3.7.

Table – 3.7: Structure of Textile Processing Mills as on 2002:

Industry	Units	Annual Production Capacity
Mechanized	99	
Semi-mechanized	197	
Total:	296	1,025 million meter

Source: Bangladesh Textile Mills Association (BTMA)

Total capacity of our textile processing units increased to 1,025 million meters at the end of 2002 from 653 million meters as it was in 1994-95. Total growth in this sector within this period was 57%. The present capacity of the processing units is capable to process the entire grey fabrics produced by the local industries.

Chapter-IV

Present Position of Readymade Garment Industry in Bangladesh

4.1. Introduction

The glory that was in manufacturing and export of world famous *Muslin* and *Nakshi Katha* will perhaps never come back. But it is a matter of great satisfaction that a new found reputation has replaced some of that faded glory. It has put Bangladesh convincingly in the industrial map of the world as we emerged in the world market as one of the major exporters of readymade garments.

After independent of our country when traditional items of export could not yield expected result, in late 70s the government and a section of – young, educated and dynamic entrepreneurs began to emphasize on development of non-traditional items of export. By the year 1983, readymade garment (RMG) emerged to be a non-traditional export oriented sector, most promising in the socioeconomic context of the country.

Within a short period of time, it has attained high importance in terms of its contribution to GDP, foreign exchange earnings and employment and also as vehicle of social changes. Both domestic and international environment favoured the rapid growth of this industry in Bangladesh. Thus the 100% export-oriented RMG industry experienced phenomenal growth during the two decades.

4.2. Growth and Contribution of RMG in the Economy of Bangladesh

The readymade garment (RMG) industry in Bangladesh has experienced an unprecedented growth over the last decade and half. The exports of the industry accounts for over 76% of Bangladesh export earnings in last fiscal year 2001-2002 which is US\$ 4.58 billion and provide 1.8 million people, of whom 80% are women workers. It promotes the development of other key sectors of the economy, including textiles, banking, transportation and insurance. Several million more jobs in Bangladesh are linked to the garments sector.

The readymade garment sector has made the working women a matured, disciplined and regimented work-force. Change in women's social status and their firm participation in household decision making is the contribution of the garment industry. This industry helps the women workforce in creating savings and empowerment.

Bangladesh exports have recorded substantial increase in terms of gross earnings, yet the receipts thereof are largely dominated by only four to five items of which the readymade garment sector contributes lion share. In fact, the country has become too much dependent on this industry. Here question lies how this industry will perform in future, which is deeply related to economic security of Bangladesh after 2004.

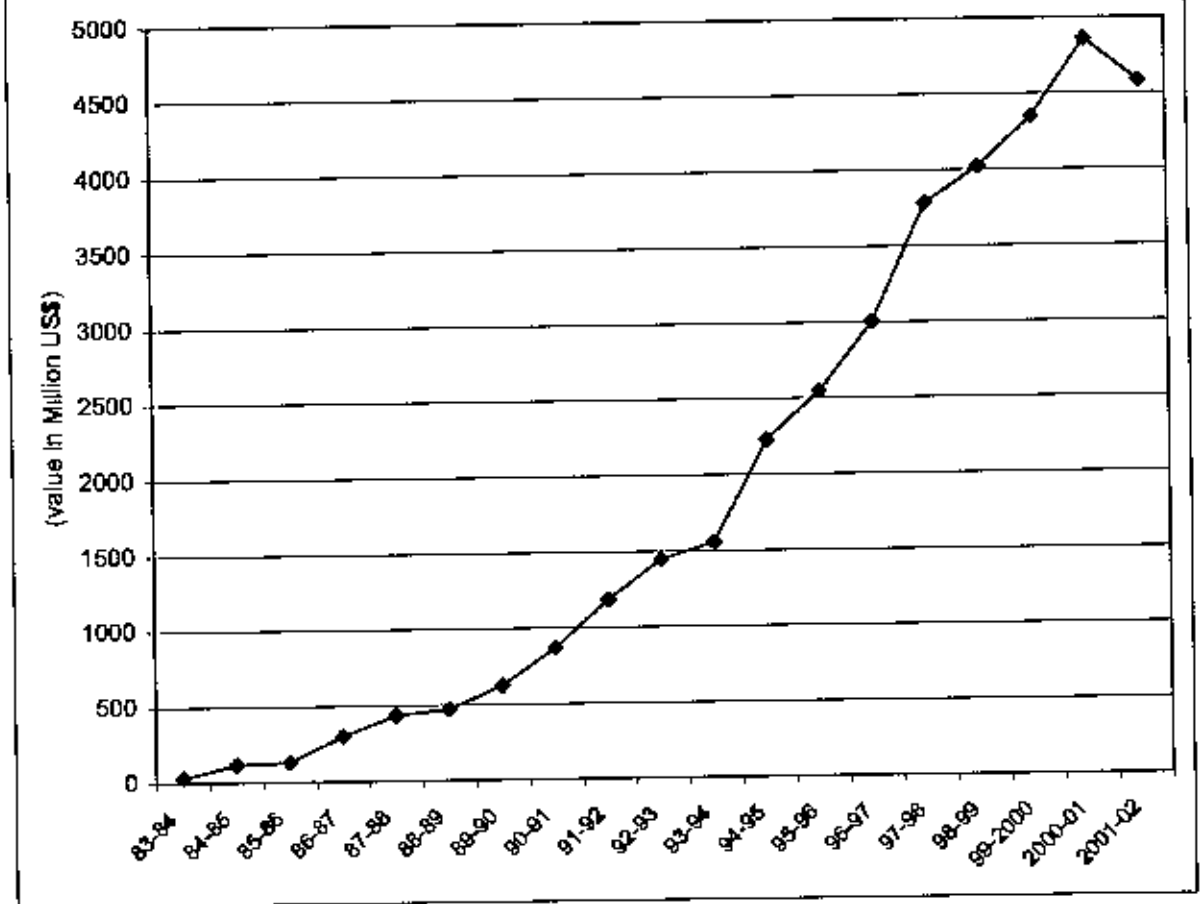
Table-4.1 shows how RMG industry has become the single most important industry in term of foreign exchange earnings over the years. However, a sizable part of this is based on imports as raw materials or intermediate materials to the industry.

Table –4.1: Contribution of RMG Export in the National Export Earnings:

Fiscal Year	Export of Apparel items from Bangladesh (value in million US\$)	National Export of Bangladesh (value in million US\$)	Percentage share of RMG in national export (%)
1983-1984	31.57	811.00	3.89
1984-1985	116.2	934.43	12.44
1985-1986	131.48	819.21	16.05
1986-1987	298.67	1076.61	27.74
1987-1988	433.92	1231.20	35.24
1988-1989	471.09	1291.56	36.47
1989-1990	624.16	1923.70	32.45
1990-1991	866.82	1717.55	50.47
1991-1992	1182.57	1993.90	59.31
1992-1993	1445.02	2382.89	60.64
1993-1994	1555.79	2533.90	61.40
1994-1995	2228.35	3472.56	64.17
1995-1996	2547.13	3882.42	65.61
1996-1997	3001.25	4418.28	67.93
1997-1998	3781.94	5161.20	73.28
1998-1999	4019.98	5312.86	75.67
1999-2000	4349.41	5752.20	75.61
2000-2001	4859.83	6467.30	75.17
2001-2002	4583.75	5986.09	76.57

Source: Export Promotion Bureau (EPB)

Figure 4.1: Growth of RMG Export



In 1978 the RMG industry was started its operation in Bangladesh with nine enterprises and has grown at a blistering pace since, as indicated in Figure 4.1.

The growth rate in last 10-years is slightly more than 200% and annual average growth rate was 14.40%. This phenomenal growth is due largely to the simple level of technology required in the industry. The machinery is relatively inexpensive and easily available. In addition, garment producers can operate in smaller premises than those required by most of the processes in the textile industry. On top of this, Bangladesh has an abundant supply of cheap labor consisting mostly of women for whom this is one of the most suitable forms of employment.

These factors, as well as incentives such as liberal trade policies, low tariffs on imported machinery, and bonded warehouse facilities, which allow the importation of raw materials to be processed for export have done much to facilitate the growth of the garment industry. However, probably the most important factor in this growth is the benefit of reserved markets that Bangladesh enjoys under the Multi Fiber Arrangements, or MFA.

The Textile exporting nations in the world fall under the trading conditions determined by the MFA, which is included in the General Agreement for Tariff and Taxation, or GATT. According to the MFA, developed nations are required to guarantee the import of a certain amount of their textile needs from developing nations. For example, the United States may have assigned the production of a certain amount of textiles to Bangladesh. This would mean that countries such as Bangladesh are assured a market for a specified number of yards of textiles each year. This agreement served to limit the dominance of the textile industries in the more developed world by limiting their share of the global market.

In addition, Bangladesh's garment exporters enjoy the privilege of quota-free entry into the European Union, or EU, whereas their major competitors, such as China, India, Indonesia, Pakistan, Sri Lanka, and Thailand, are subjected to the restrictions of an assigned quota. As a result Bangladesh is able to export everything that it produces, while its more developed competitors are limited to specific amounts assigned through quotas.

4.3. Export of Main Apparel Items

The main apparel items exported from Bangladesh are Shirt, T-Shirt, Trousers, Jackets & Sweater. The year wise position of export of these items (from year 1997-98 to 2001-2002) is given in Table-4.2. Table 4.3 shows the relative share of different apparel items. It appears that the product mix of RMG industry is not changing much. Most of these products are at the lower end of product spectrum.

Table -4.2: Export of Main Apparel Items:

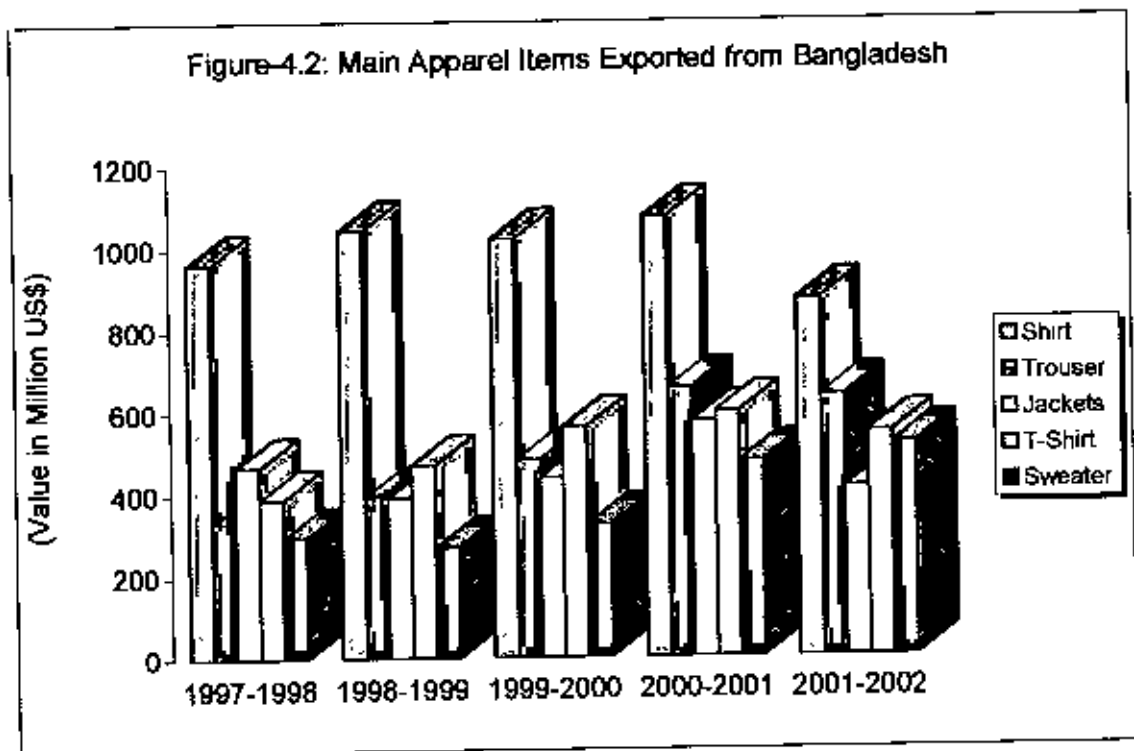
(In Million US\$)

Year	Shirt	Trouser	Jackets	T-Shirt	Swcater	Others	Total
1997-1998	961.13	333.28	467.19	388.50	296.29	1335.55	3781.94
1998-1999	1043.11	394.85	393.44	471.88	271.70	1445.00	4019.98
1999-2000	1021.17	484.06	439.77	563.58	325.07	1515.76	4349.41
2000-2001	1073.59	656.33	573.74	597.42	476.87	1481.88	4859.83
2001-2002	871.21	636.61	412.34	546.28	517.83	1599.48	4583.75
Growth (1997-2002)	- 9.36%	91.01%	-11.74%	40.61%	74.77%	19.76%	21.20%

Source: Bangladesh Garments Manufacturers and Exporters Association (BGMEA)

Table -4.3: Percentage of Export of Main Apparel Items:

Year	Shirt	Trouser	Jackets	T-Shirt	Sweater	Others	Total
1997-1998	25.41%	8.81%	12.35%	10.27%	7.83%	35.31%	100%
1998-1999	25.95%	9.82%	9.79%	11.74%	6.76%	35.95%	100%
1999-2000	23.48%	11.13%	10.11%	12.96%	7.47%	34.85%	100%
2000-2001	22.09%	13.51%	11.81%	12.29%	9.81%	30.49%	100%
2001-2002	19.01%	13.89%	9.00%	11.92%	11.30%	34.89%	100%



4.4. The Strengths of RMG Sector

The competitive strength of a firm or a company in the market depends on its specific comparative advantages which its competitors do not have. A particular uniqueness of a supplier shapes up its strategic advantage profile. In case of Bangladesh, this uniqueness is the unlimited availability of unusually cheap but usable workforce. It is the abundant supply of comparatively cheap workforce that stands out as the most significant strength.

4.5. The Weakness of RMG Sector

The weakest point of the Bangladesh apparel / RMG industry is that it is still at the mercy of the external suppliers of its main raw materials, namely the fabrics. Presently Bangladesh has a limited capacity to produce fabrics required by the RMG factories. High dependence on external sources makes Bangladesh extremely vulnerable. As opposed to this, her competitors, India, Pakistan, Thailand, Malaysia and other countries have their textile mills which can produce quality fabrics for the respective apparel industries.

4.6. Impact of MFA & WTO on our RMG

Multi Fiber Agreement (MFA)

The international trade in textiles and clothing is currently guided by various restrictions on a global or regional basis. Although MFN (most-favored nation treatment, which means non-discrimination treating virtually every one equally) was the basic principle under the GATT, it is hardly the case. Almost the entire trade in textiles and clothing has been subjected to bilateral quotas negotiated under the Multi Fiber Agreement (MFA). MFA is an international arrangement reached by the major textile importing and exporting countries on textile trade under the auspices of the GATT. It was concluded at the end of 1973 and came into effect from 1st January 1974. It was renewed in December 1977, in December 1981, again in July 1986 and lastly in July 1991. This has basically succeeded the Long Term Agreement on International Trade in Cotton textiles ('The LTA') which had been in effect since 1962. Whereas the LTA applied only to cotton textiles, the MFA also applies to wool, man-made fiber, and silk blend and vegetable fiber textiles and apparel products.

The MFA defines textiles as yarns, piece-goods, made-up articles, garments, and other products made of cotton, wool, man-made fibers, or blends thereof, in which any or all of those fibers in combination represent either the chief value of the fibers or 50% or more by weight (or 17% or more by weight for wool) of the product.

The main features of the arrangement are as follows:

1. The right of the importing countries to impose unilateral restrictions was strengthened.
2. More favourable treatment was to be accorded to small suppliers, new entrants, cotton and wool-based exporting countries and LDCs.
3. The Textile Surveillance Board (TSB) was empowered to interpret relevant provisions of the Arrangement.

Bangladesh's largest customers in the USA and the EU take advantages of such barriers now to limit the exporters of many countries like China, India, Pakistan and Indonesia. But Bangladesh is in a favourable position under MFA as it allows greater market access as LDC. Bangladesh has a very high quota in the US and also has no duty and no quota in the EU.

World Trade Organization (WTO)

In 2005 WTO regulations will come into force, consequently MFA will phase out and the quantitative restriction (Quota system) will also be phased out and as such a comprehensive vacuum will create to capture this new quota free market. Bangladesh, in addition to enhance its current market share, will have to race to fill this vacuum.

Bangladesh presently is a price competitive apparels producing and exporting country. But after phasing out of MFA, it may lose this competitive advantage unless effective appropriate cost reduction strategies are not taken. Because (a) after 2004, the number of low cost apparel producing country will increase as the garment industry is an easy, less investment intensive industry and also economic primer for developing economics (b) raw cotton producing and self-sufficient backward linkage industrial countries will efficiently supply the apparel products to the US market that Bangladesh are currently availing this opportunity.

4.7. Opportunities of RMG

There are a host of things to be done to reduce the cost of production as well as enhance the current market share in the US and other markets. To solve the problems, we must reach a unique consensus to protect the adverse market situation that may be arise in 2005. The following steps may be taken for the survival and expansion of our RMG export in the competitive global market.

a. Internal Issues

Internal problems include cost reduction strategies, establishing backward linkages, ensuring efficient management of ports and attaining political consensus on treating RMG as a top priority and to keep it out of all sorts of political disturbance.

a.1. Cost Reduction Strategy

The labour productivity in RMG is lower than countries like China, Korea or even Sri Lanka. Workers must be trained and well motivated to increase productivity. Necessary steps must be taken at the industry level to train and motivate workers.

Improved Working Conditions better terms of employment, timely over time payment, health care services, etc. are likely to motivate worker which in turn will improve productivity. Productivity increase eventually decreases cost.

Presently Bangladesh imports 80% of woven fabrics and 20% of the knit fabrics. Currently fabrics are imported from countries like India, South Korea, Hong Kong, Singapore, Thailand, Indonesia, Taiwan, China, etc. Besides, delay in importing and exporting at the Port and Customs increases cost of doing business. By minimizing such delay, cost can be reduced.

In the international competition, Bangladesh is lagging behind in the readymade garments sector, due to larger lead time. At present, it takes 90-120 days in the export oriented garments industry, as Bangladesh has to import most of fabrics used by its garments industries.

The turn around time in Chittagong port is longer than major parts of the world due to different internal problems which also increase the lead time of our RMG. Port capacity and port management must be improved if Bangladesh wants to reduce lead-time.

a.2 Establish Backward Linkages:

Currently, textile industries of Bangladesh can supply only 20% of the woven fabrics requirement and about 80% of the knit fabrics requirement of the export-oriented RMG industry. There is a huge demand-supply gap of fabrics in the woven sector. After 2004, i.e. after the phase out of Multi-fibre Arrangement (MFA), there will be no quota. So, the immediate effects on Bangladesh will be as follows :

- The Textile producing giants like Pakistan, India, China, Hong Kong, Indonesia etc. have started to set up forward linkage garment industries and ship out apparels up to their maximum limits. So, Bangladesh will be in strong competition with them.
- In this context, these traditional fabric sources (import) for Bangladesh may not supply sufficient fabrics, as they will produce fabric for their own garment industries to get the maximum benefits of free-trade regime and higher value addition. Bangladesh may not get the fabric in competitive price.
- Namrally lead-time of Bangladeshi industries will be longer than that of its competitors like China, India, Pakistan, Indonesia etc. who are much more developed in textiles. Present lead-time of Bangladeshi industries is around 90-120 days, where as its competitors are offering shorter lead-time of only 45-60 days.
- Therefore, Bangladesh shall have to concentrate on establishing backward linkage textile industries to feed the garment industry's demand.

a.3 Ensuring efficient management of Ports

Bangladesh garment export in volume is increasing @ 15% for the last 20 years. The facilities of Chittagong Port have not increased at the same rate. The handling capacity of Chittagong Port is 0.15 million TEU (Twenty Equivalent Units), whereas in 2001 Chittagong Port handled about 0.48 million TEU [Ref: 12]. The container

kept stuck up in the port and many containers waiting for 15-20 days which are required to be released within three days. Bangladesh have exported 101 million dozens, 111 million dozens, 124 million dozens and 120 million dozens of apparel in the year 1998-99, 1999-2000, 2000-2001 and 2001-2002 respectively, depending only on Chittagong Port. Similar delay happening in case of imports. Raw materials remain idle in the container at Chittagong Port for 10-15 days.

b. External issues

External issues are those over which Bangladesh has no direct control to solve. At best it can influence through her policies and bilateral and multilateral negotiations. These issues include : intense competition from low cost sources, frequent policy changes of importing countries, introduction of new USA policy like TDA 2000, bilateral and multilateral agreements between importing & exporting countries, global recession and the terrorist attacks in the USA on 11 September 2001, which also affected the global economy. The garments export is, for the first time, showing negative growth. Hence Bangladesh should go for product and market diversification and compliance with sensitive social issues.

b.1 Product Diversification:

RMG production is concentrated in a relatively limited range of products such as Shirts, T-shirt, Trousers and Shorts. To be internationally competitive, Bangladesh needs to expand its product range and should begin producing fashion-wear and higher value added items. Product diversification is essential to meet the challenges of the post-MFA world.

Sufficient capacity building is required for such diversification, which involves improving skills such as fashion design and cutting as well as upgrading technology.

b.2. Market Diversification:

Bangladesh has so far exported apparels to almost 85 countries. But its export is concentrated only in two large markets, USA and EU, because of larger quotas granted by USA and GSP privileges provided by EU. More than 95% of Bangladeshi

garments are exported to these two markets. Canada as a single country buys about 2.3% of our total export. Trend of RMG export to the USA and EU are shown in Table 4.4.

Table-4.4: Trend of RMG export to the USA and EU:

Year	Exports to the USA as a % total export	Exports to the EU as a % of total export	Combined share of the US and EU export (%)
1991-92	49.14%	46.42%	95.56%
1992-93	48.72%	45.69%	94.41%
1993-94	30.08%	55.43%	93.51%
1994-95	45.15%	49.36%	94.51%
1995-96	39.33%	55.17%	94.50%
1996-97	41.49%	54.11%	95.60%
1997-98	44.23%	51.14%	95.35%
1998-99	43.24%	52.38%	95.62%
1999-2000	45.83%	49.93%	95.76%
2000-2001	45.24%	50.49%	95.73%

Source: Bangladesh Garments Manufacturer and Exporters Association (BGMEA)

The above table shows the export share to the USA is 45.24% in 2000-2001 which is 3.74% less than that of the year 1991-1992. However, the corresponding share to the EU has experienced an increase of 4.09% than the year 1991-92. Thus, the increment in the EU share has simply replaced the declining share in the USA market, which suggests that instead of diversification, Bangladesh's export market has still remained concentrated in these two areas over the past decade.

Recently Canada has provided duty and quota free access of apparels from Bangladesh to Canadian market. Bangladesh should try to expand our market share to Canada which is now only 2.3%. Japan and Russia are also two major importers of apparel. Bangladesh should also try to capture these two markets with all its efforts.

4.8. SAARC Regional Cumulation and Bangladesh

The issue of Regional Cumulation for SAARC countries was first mooted in early 1990s when a Memorandum of Understanding (MOU) was signed between European Union and SAARC, which called for fostering greater economic cooperation between the two regional groupings. Under EC-GSP scheme, regional cumulation is permissible subject to certain conditions, on a regional basis. Such regional cumulation allows that, materials or parts imported by a member country of a regional grouping will be considered as originating products of the country of manufacture and not as third country inputs.

There is different opinion about the effect of SAARC Cumulation. According to BGMEA, since capacity of our local textile mills is inadequate to support the RMG's bulk of raw materials for RMG has to be imported. Under the EC-ROO (two stage local conversion), bulk of Bangladesh's exports of apparels to EC are not eligible for preferential treatment under EC-GSP. If the Regional Cumulation (RC) is allowed, Bangladesh's RMG could enhance its competitiveness in the global market. On the other hand BTMA reckons that under government patronage, and thanks to indigenous entrepreneurial involvement, the backward linkage industries in the textile have been gradually coming up over the recent past. Protection and promotion have played a crucial role in this emergence. Such supports measures need to be continued for further growth of the textile sector. The apprehension of BTMA is that once Bangladesh joins to RC, comparative advantage of the local textiles sector will be lost since exporters will be able to avail preferential treatment under EC-GSP even when they import fabrics from regional countries. As a result, local textile industry's growth will be impeded.

One important aspect of the provision which appear to have been ignored by both the proponents and opponents of RC related to two subtle, but important conditions which inform preferential treatment under RC. According ROO of EC's GSP policy, the country of origin of the final products is being determined as follows:

“When goods originating in a country which is a regional group are worked or processed in another country of the regional group, they shall have the origin of the country of the regional group where the last working or processing was carried out provided that :

- (1) the value added there is greater than the highest customs value of the products used originating in any of the other countries of the regional group, and
- (2) the working or processing carried out there exceeds that set out in article 70 (insufficient working or processing) and, in the case of textile products, also those operations referred to at annex 16 of the ECC.” [Ref: 14]

When the above mentioned conditions are not satisfied, the products shall have the origin of the country of the regional group which accounts for the highest customs value of the originating products coming from other countries of the regional group.

The conditions set out for accessing EC-GSP under RC are of crucial importance for Bangladesh. As local value addition of Bangladesh's RMG products which use imported fabrics is about 25-30 percent only of the total value of exports. So, in case of imported fabrics GSP margin for Bangladesh will be calculated at the rate which is eligible for the supplier of fabrics and if the fabrics is imported from India or Pakistan which fall into the category of 'developing country' it will be 15% duty drawback on 12.50% tariff rate instead of 100% duty drawback on the tariff rate. Thus, RMG made in Bangladesh from imported fabrics from India / Pakistan will be eligible for duty waiver of about 1.9%. The EC importers will still have to pay a duty of 10.6%. Thus, actual effective margin to be accrued under RC will not be very significant for Bangladesh in present context.

On the other hand, once a RMG unit substitutes its local fabrics sourcing by regional one, it will not be entitled to the cash incentive currently available (presently it is 10% on export value) using for deemed exports of local textiles.

But as local textile mills are not sufficient to support the RMG and even can not fulfill more than 40% of fabrics and yarn demand in spite of considerable growth in the sector since 1995, it will be unwise to say that local textile mills will be grown up such a level that it can fulfill the total demand of textile (fabrics and yarn) local & export market within a short time.

From the above discussion it can be concluded that SAARC Cumulation will help Bangladeshi RMGs' at least to some extent to maintain its present export level.

Chapter-V

Demand of our Textile Products

5.1. Introduction

Textile Industries of Bangladesh are divided in two parts – one part is producing fabrics for local consumption i.e. for domestic market & the other part is for export oriented ready-made garments. So, the demand analysis for yarn & fabrics has been worked out separately for domestic market and for export market.

5.2. Projection of Domestic Demand for Fabrics and Yarn

Domestic demand means domestic effective demand. There are different ways to estimate domestic effective demand for fabrics can be estimated by relating consumption of fabrics to the growth of income, income elasticity of demand for fabrics, growth of population and other related factors at a particular year assuming normal fabrics price.

The projected domestic demand has been estimated using the following formula [Ref: 15]

$$D_t = D_o [(1 + N \cdot G)^n] P$$

Where,

D_t = Demand for all types of Cloth

D_o = Per capita effective demand of all type of cloth in the base year (1997-98 as published data is available upto this period)

N = Income elasticity of demand for all types of cloth

G = Average annual rate of growth of per capita income

n = Number of years ($n=0$ in base year) and

P = Population of the year of which effective demand for cloth is being estimated

Once the effective demand for fabrics is estimated, one can obtain the yarn equivalent assuming that 1kg of yarn can produce 8 meters of fabrics of 43/44" width on average

[Ref: 1]

Projected demand for fabrics has been estimated using the above formulae on the basis of the following assumptions:

- i. Per capita effective demand of all types of cloth (Do) in the base year 1997-98 (available published data) has been estimated from the total availability of fabrics (it was 1558.20 million meter in 1997-98) & the population (it was 126.50 million in 1997-98) by dividing the 1st one by the 2nd one and the result found is 12.32 meters [Ref : 6].
- ii. During the 5th Five Year Plan (1998-2002) of Bangladesh, it is projected to grow (GDP) at about 7% per annum. Actual average growth rate for last 4-years (1997-98 to 2000-2001) was 5.30% [Ref : 7] . So, the annual rate of growth (G) of per capita income is assumed at 5.30% .
- iii. Income elasticity (N) of demand for fabrics has been assumed to be 0.8 [Ref : 15].
- iv. Population of the base year (1997-98) is assumed 126.50 million [Ref : 6].
- v. Growth rate of population is assumed at 1.50% per annum (last year's growth rate was about 1.77%) [Ref : 6].

Using the formulae and the assumptions, domestic demand of fabrics and yarn have been estimated for the period 1998-99 to 2004-2005 are shown below:

Table-4.1: Projected Demand of Fabrics and Yarn for Domestic Market:

Years	Population (in million)	Demand in the Year (Dt) (in million, Meter)	Equivalent Yarn (in million Kg)	Per capita Cloth Consumption (in meters)
1997-98	126.50	1558.20	194.78	12.32
1998-99	128.40	1648.93	206.12	12.84
1999-2000	130.32	1744.63	218.08	13.39
2000-2001	132.28	1845.88	230.73	13.95
2001-2002	134.26	1953.00	244.13	14.55
2002-2003	136.28	2066.35	258.29	15.16
2003-2004	138.32	2186.27	273.28	15.81
2004-2005	140.40	2313.15	289.14	16.48

5.3. Projection of Demand for Fabrics and Yarn for Export

5.3.a. Fabrics Consumed by Export Oriented RMG

In the year 1990-91 fabrics and yarn consumed by the RMGs' were 563.51 million meters and 93.92 million kg respectively which increased to 2526.00 million meters and 420.87 million kg in the year 2001-2002. The year wise consumption are shown in Table 5.2.

Table-5.2: Consumption of Fabrics & Yarn by Export Oriented RMG:

Year	Export in Million US\$	Quantity of RMG Exported (Million Dozens)	Consumption	
			Fabrics (Million Meter)	Yarn (Million Kg)
1990 - 1991	866.82	30.57	563.51	93.92
1991 - 1992	1182.57	40.00	737.68	122.95
1992 - 1993	1445.02	46.71	859.53	143.25
1993 - 1994	1555.79	45.17	830.92	138.49
1994 - 1995	2228.35	62.51	1149.73	191.62
1995 - 1996	2547.13	72.01	1321.57	220.26
1996 - 1997	3001.25	80.99	1485.61	247.60
1997 - 1998	3781.94	98.19	1801.53	300.25
1998 - 1999	4019.98	101.45	1859.79	309.97
1999 - 2000	4349.41	111.90	2049.03	341.50
2000 - 2001	4859.83	124.02	2262.70	377.00
2001 - 2002	4583.75	140.44	2526.00	420.87

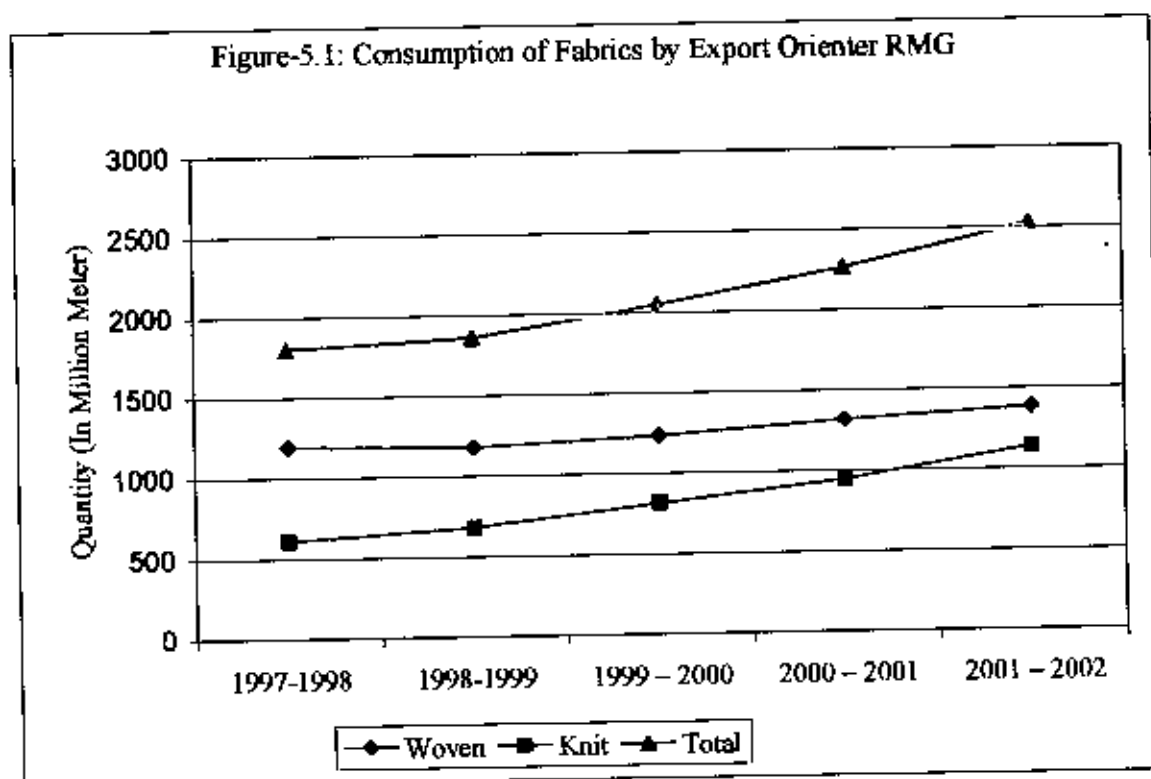
Source: Bangladesh Garments Manufacturers and Exporters Association (BGMEA) [BATEXPO 2002]

Table-5.3: Consumption of Woven & Knit Fabrics by Export Oriented RMG:

(Quantity in Million Meter)

Year	Woven	Growth	Knit	Growth	Total
1997-1998	1193	-	609	-	1802
1998-1999	1179	-1.17%	681	11.82%	1860
1999 - 2000	1234	4.66%	815	19.68%	2049
2000 - 2001	1317	6.73%	946	16.07%	2263
2001 - 2002	1386	5.24%	1140	20.51%	2526

Source: Bangladesh Garments Manufacturers and Exporters Association (BGMEA)



5.3.b. Projected Demand:

In the international competition Bangladesh lags behind in the RMG sector, due to lead-time and this is due to our dependence on import base raw materials specially fabrics. Till now our textile industries can supply only 40-45% (70-80% knit & about 15% woven) of total fabrics requirement.

By applying the regression analysis (least squares method) on the past data the projected requirement of fabrics for export market for the period 2002-2003 to 2005-2006 is shown in Table-5.4.

Table-5.4: Projected Demand of Fabrics for export oriented RMG:

	Woven Fabrics (Million Meter)	Knit Fabrics (Million Meter)	Total Fabrics (Million Meter)	Equivalent Yarn (Million Kg)
2002-2003	1424	1314	2738	495
2003-2004	1484	1539	3023	554
2004-2005	1546	1803	3349	621

Assumption: 7 meters of woven fabrics and 4.50 meters of knit fabrics can be produced on average from 1 kg of yarn
[Ref: 1]

5.4. Total Projected Demand for Fabrics and Yarn

Considering the estimated local demand & export demand for yarn as projected above, the total potential demand for yarn is given in the following table:

Table- 5.5: Total Projected Demand of Fabrics & Yarn:

Year	Demand of Fabrics in Million Meter			Demand of Yarn in Million Kg		
	Domestic	Export	Total	Domestic	Export	Total
2002-2003	2066	2738	4804	258	495	753
2003-2004	2186	3023	5209	273	554	827
2004-2005	2313	3349	5662	289	621	910

It appears from the above table that the total demand for fabrics & yarn in Bangladesh will stand to 5662 million meter & 910 million kg respectively in 2004-2005 from present (2001-2002) demand of 4479 million meter & 665 million kg.

Chapter-VI

Expected Supply and Demand-Supply Gap of Textile Products in Bangladesh

6.1. Introduction

The phenomenal expansion of the RMG industry in Bangladesh and the dramatic increase in the population in addition to an increased standard of living in the country has led to a large demand of fabrics and consequently yarns. However, the supply side did not develop at a matching pace. This chapter looks at the development of production facilities of yarn and fabrics in the country and assesses the demand-supply gap.

6.2 Supply Position

From the present structure of the textile industries as described in the earlier discussion we found the capacity of the different part of textile industries are shown in table 6.1.

Table-6.1: Total Present (December 2002) Production Capacity of Textile Industries:

Industry	Installed Capacity	Annual Production Capacity		
		Export Quality	For Domestic use	Total
Spinning	3,534,660 Spindles & 119,854 Rotors	320 Million Kg	220 Million Kg	540 Million Kg
Weaving				
Power Loom	46,115 Looms	420 Million Meters	710 Million Meters	1,130 Million Meters
Hand Loom	574,000 Looms	-	975 Million Meters	975 Million Meters
Total:	620,115 Looms	420 Million Meters	1,685 Million Meters	2,105 Million Meter
Knitting	3,227 Knitting Machine	260 Million Kg (1,170 Million Meters)	60 Million Kg (420 Million Meters)	320 Million Kg (1,590 Million Meters)

[Ref: Chapter- IV]

If the above Industries can utilize 80% of their capacity in average then total supply of textile products will be as under:

Table-6.2: Expected Supply of Textile Products from our Textile Industries(2002):

Industry	Annual Production		
	Export Quality	For Domestic use	Total
1. Yarn	256 Million Kg	176 Million Kg	432 Million Kg
2. Fabrics.			
Woven Fabrics	336 Million Meters	1,348 Million Meters	1,684 Million Meter
Knit Fabrics	208 Million Kg (936 Million Meters)	48 Million Kg (336 Million Meters)	256 Million Kg (1,272 Million Meters)
Total(2):	1,272 Million Meters	1,684 Million Meters	2,956 Million Meters

6.3 Demand Position

From the projection done in the previous chapter the projected total demand of different textile products for the years 2002-2003 to 2004-2005 are shown in Table-6.3.

Table- 6.3: Total Projected Demand of Fabrics & Yarn:

Year	Demand of Fabrics in Million Meter			Demand of yarn in Million Kg		
	Domestic	Export	Total	Domestic	Export	Total
2002-2003	2066	2738	4804	258	495	753
2003-2004	2186	3023	5209	273	554	827
2004-2005	2313	3349	5662	289	621	910

[Ref: Chapter – V]

The break-up of demand of woven & knit fabrics for the year 2004-2005 for export market through RMG and for domestic market are shown in Table – 6.4.

Table-6.4: Requirement of Woven & Knit Fabrics for the Year 2004-2005:

(Quantity in Million Meter)

	Woven	Knit	Total
For Export Market	1,546	1,803	3,349
For Domestic Market	1,966	347	2,313
Total.	3,512	2,150	5,662

[Ref: Chapter – V]

Assumption: Demand of knit fabrics for domestic market is about 15% of total demand. [Ref: 1]

6.4 Demand-Supply Gap

From the above analysis the projected demand & expected supply from the existing projects demand-supply gap of different textile products as it will be in 2004-2005 considering that the no new unit will be established or expansion of any of the existing units will be made are shown in Table 6.5.

Table 6.5: Projected Demand-Supply Gap as it will be in 2004-2005:

Product	For Export Market			For Domestic Market			Total		
	Demand	Supply	Gap	Demand	Supply	Gap	Demand	Supply	Gap
Yarn (Million Kg)	621	256	365	289	176	113	910	432	478
Fabrics (Million Meter)									
Woven Fabrics	1,546	336	1,210	1,966	1,348	618	3,512	1,684	1,828
Knit Fabrics	1,803	936	867	347	336	11	2,150	1,272	878
Total	3,349	1,272	2,077	2,313	1,684	629	5,662	2,956	2,706

Chapter-VII

Self-sufficiency in Textile Products by 2004

7.1 Introduction

From the previous discussions it is clear that there is no other alternative than to decrease production cost of our RMG to compete in the world market after 2004. Reduction of cost can be attained by reducing lead-time establishing backward linkage industries specially textile industries. It is also observed that producing textile domestically reduced the cost of production.

7.2 Number of Different Type of Textile Industries to be set-up to fulfill the Demand

From the previous chapter we found that there will be a supply gap of 361 million kg yarn and 2,535 million meter of fabrics. To become self sufficient in textile products within 2004-2005 we have to set-up more spinning and weaving, dyeing-finishing & knitting units. The number of different types of textile units required to be set-up are deduce in the following:

7.2.1 Assumptions:

a. Spinning Units -

The initial operation of a Spinning mill is sorting & cleaning of cotton which is done in the blow room. An average standard size of blow room is designed to support upto 25,000 spindles or equivalent. Moreover the total cost of a blow room machinery is about 10% of total machinery cost. As such a spinning mill having less than 25,000 spindles will keep the blow room under utilized. It is therefore apparent that a project having less than 25,000 spindles will not be technically & financially viable.

The sources of fund for setting up of a project are the equity of the entrepreneurs, fund against public offering i.e. the capital market and loan from bank or other financial institution. But as per present rule of Bangladesh a company can not draw fund from capital market through public offering to start its business. A company can only go for public offering after successful completion of its 2-years of operation. As such to start a new project in Bangladesh entrepreneurs have to go for loan from bank.

A spinning mill capable to produce export quality yarn required a total fixed investment of Tk.700.00 million and working capital investment of Tk. 200.00 million approximately. Entrepreneurs of Bangladesh are not able to meet this huge expenditure and have to go for bank financing. Most of the cases the entrepreneurs are being able to bear upto 30% of the total cost and for the rest 70% (Tk.630.00 million approx.) they have to go for bank's financing.

But according to present restriction on investment criteria a single bank can not provide funded loan more that 25% of its equity. As such to give support solely to a spinning mill of above mentioned type a Bank should have at least Tk. 2500.00 million as equity. Unfortunately, only 2 or 3 bank's of Bangladesh have this amount of equity.

As such a project with a capacity of more than 25,000 spindles can not be easily financed by many banks operating in the country.

From the size of the spinning mills which were set-up in last 2-years it is found that the average size of those was 25,000 spindles.

Considering all the above, it is assumed that a spinning mill of 25,000 spindles or equivalent can be taken as an standard for determining the number of spinning mill to full-fill the demand. Total capacity of such a unit is about 6.00 million kg per annum with an attainable average capacity of 5.40 million kg.

b. Composite Weaving Units with Dyeing-Finishing Facilities –

The initial operation of a weaving mill is warping and the sizing. Sizing machine is the most costly machine of a weaving mill. An average standard size of a sizing machine (9-Cylinder) can process yarn upto 12.00 million meter. As such a weaving mill having less than 10.00 million meter capacity will keep the most costly machine of the unit under utilized. It is therefore apparent that a project having less capacity will not be technically & financially viable.

Problem of financing as mentioned in case of spinning mill is also applicable for the composite weaving mill also.

From the size of the weaving and dyeing-finishing mills set-up in last 2-years for export market, it is found that the average capacity of those is 10.00 million meters.

Considering all the above, it is assumed that a composite weaving mill having capacity of 10.00 million meters per annum can be taken as an standard for determining the number of units to full-fill the demand. The attainable average capacity of such type of units will be 8.00 million meter.

c. Composite Knitting Units

Average standard size of finishing machinery of composite knitting industry like Compactor, Calendar and Shrinkage Controlling machines have been designed to finish fabrics at the rate of 6.00 M.Ton to 7.00 M.Ton per day.

Moreover, the size of Composite Knitting units set-up in last 2-yacs have an average capacity of 6.00 M.Ton.

Considering all the above, it is assumed that a composite weaving mill having capacity of 6.00 M.Ton per day i.e. 1.920 M.Ton per annum equivalent to 8.64 million meters. The attainable average capacity of such type of units will be 7.75 million.

Average size of existing knitting units producing fabrics for domestic market are very small, but for the sake of uniformity in calculation the average size of the required new units is considered at 6 Ton per day.

From the above assumed specifications the requirement of different type of textile industries to fulfill the demand as it will be in 2004-2005 are shown in Table 7.1, 7.2 & 7.3.

Table 7.1: Required No. of Spinning Units to Full-fill the Gap as it will be in 2004-2005:

For Export Market			For Domestic Market			Total No. of Unit Required
Gap (In Million Kg)	Average Capacity per Unit (In Million Kg)	Required No. of Unit	Gap (In Million Kg)	Average Capacity per Unit (In Million Kg)	Required No. of Unit	
365	5.40	68	113	5.40	21	89

Table 7.2: Required No. of Woven Fabrics Producing Units to Full-fill the Gap as it will be in 2004-2005:

For Export Market			For Domestic Market			Total No. of Unit Required
Gap (In Million Meters)	Average Capacity per Unit (In Million Meters)	Required No. of Unit	Gap (In Million Meters)	Average Capacity per Unit (In Million Meters)	Required No. of Unit	
1,210	8.00	151	618	8.00	78	229

Table 7.3: Required No. of Knit Fabrics Producing Units to Full-fill the Gap as it will be in 2004-2005:

For Export Market			For Domestic Market			Total No. of Unit Required
Gap (In Million Meters)	Average Capacity per Unit (In Million Meters)	Required No. of Unit	Gap (In Million Meters)	Average Capacity per Unit (In Million Meters)	Required No. of Unit	
867	7.75	112	11	7.75	2	114

7.3 Investment Required to Set-up the Units to fulfill the Demand

Investment required to set-up the textile units to full-fill the demand of textile products by 2004 i.e. to earn the self sufficiency are most important towards planning the further course of action.

Average cost of spinning, composite weaving & composite knitting industries of previously mentioned assumed capacity are shown in the Table 7.4.

Table -7.4: Average Cost of different type of Textile Industry:

Industry	Capacity per Year	Type of Machine	Average Cost (In million Taka)		
			In Foreign Currency	In Local Currency	Total
For Export Market:					
Spinning	6.00 million kg	Brand new Japan & European origin	550.00	150.00	700.00
Composite Weaving	10.00 million meter	Brand new European/ Japan origin	570.00	180.00	750.00
Composite Knitting	8.64 million meter	Brand new European/ Japan origin	110.00	55.00	165.00
For Domestic Market:					
Spinning	6.00 million kg	Brand new China / India origin or second hand European/ Japan origin	170.00	80.00	250.00
Composite Weaving	10.00 million meter	Brand new China / India origin or second hand European/ Japan origin	240.00	110.00	350.00
Composite Knitting	8.64 million meter	Brand new Indian, China origin knitting machine, Local dyeing machine and reconditioned China / Korea origin finishing machine	30.00	40.00	70.00

Source: Different New Projects banking with Islami Bank Bangladesh Ltd.

Detail of the costs are shown in Annexure – B.

Considering the above average cost of projects the total investment required to set-up the required number of projects fulfill the demand of fabrics and yarn for both export and domestic market is shown in Table 7.5.

Table-7.5: Investment required to Set-up the Units to full-fill the Demand:

Type of Unit	No. of Unit	Average Cost per Unit			Total Cost		
		In Foreign Currency	In Local Currency	Total	In Foreign Currency	In Local Currency	Total
For Export Market							
Spinning	68	550.00	150.00	700.00	37,400.00	10,200.00	47,600.00
Composite Weaving	151	570.00	180.00	750.00	86,070.00	27,180.00	113,250.00
Composite Knitting	112	110.00	55.00	165.00	12,320.00	6,160.00	18,480.00
Total:	331				135,790.00	43,540.00	179,330.00
For Domestic Market							
Spinning	21	170.00	80.00	250.00	3,570.00	1,680.00	5,250.00
Composite Weaving	78	240.00	110.00	350.00	18,720.00	8,580.00	27,300.00
Composite Knitting	2	30.00	40.00	70.00	60.00	80.00	140.00
Total:	101				22,350.00	10,340.00	32,690.00
Grand Total:	432				158,140.00	53,880.00	212,020.00

From the above analysis we found that to achieve self-sufficiency in textile by 2004 we shall have to invest total Tk. 212,020.00.00 million out of which Tk. 158,140.00 million in form of foreign currency and Tk. 53,880.00 million in form of local currency. This amount is calculated on the basis of position of Textile Industries of Bangladesh as it was in December 2002.

7.4. Requirement of Electric Power to Run the New Units

To run the new textile units a huge quantity of electric power will also be required. The total requirement of electric power to run the units is shown in Table – 7.6.

Table-7.6: Electric Power Requirement for the New Units:

Type of Unit	For Export Market			For Domestic Market			Grand Total (In MW)
	No. of Unit	Average Requirement	Total (In MW)	No. of Unit	Average Requirement	Total (In MW)	
Spinning	68	2.70 MW	183.60	21	2.20 MW	46.20	229.80
Composite Weaving	151	1.00 MW	151.00	78	1.00 MW	78.00	229.00
Composite Knitting	112	0.60 MW	67.20	2	0.60 MW	1.20	68.40
Total:	331		401.80	101		125.40	527.20

Source. Different New Projects Banking with Islami Bank Bangladesh Ltd.

From the above table it found that to run the new projects to fulfill the demand of textile products within 2004 a total of 527.20 MW electric power will be required. Government has to made necessary arrangement for supplying the required power or have to made necessary arrangement of financing and gas / fuel supply so that the units can install their own electric power generating unit. If the mills go to install their own power generation unit then it will take about Tk. 10.600.00 million (Tk. 20.00 million per MW on average [Ref: 10]).

7.5. Requirement of Human Resource to Run the New Units

Though textile industry of Bangladesh has grown at a considerable high rate, the human resource in this sector is not developed at the same rate. Still now most of the key positions of the export oriented textile industries are being filled by hiring technical persons mainly from India and Pakistan.

However, to run the new textile units a huge quantity of different type of skilled, semi-skilled and un-skilled human resource will also be required. The total requirement of different type of human resource (in ideal situation) to run the units is shown in Table-7.7.

Table-7.7: Human Resource Requirement for the New Units:

	No. of Unit	Requirement per unit	Total
For Spinning:	89		
Senior Textile Engineer (in the position of Factory Manager)		1	89
Mid-level Textile Engineer (in the position of Production Manager)		3	267
Textile Engineer (in the position of Asstt. Manager)		12	1,068
Senior Maintenance Engineer (in the position of Maintenance Manager)		1	89
Maintenance Engineer (Mechanical & Electrical)		3	267
Diploma Engineer Textile		24	2,136
Foreman (Mechanical & Electrical)		6	534
Skilled Labour / Operator		120	10,680
Semi-skilled / Un-skilled Labour		150	13,350
Management Staff (Marketing, Accounts, Administration, Finance, etc.)		20	1,780
Total:		340	30,260
For Composite Weaving:	229		
Senior Textile Engineer (in the position of Factory Manager)		1	229
Mid-level Textile Engineer (in the position of Production Manager)		6	1,374
Textile Engineer (in the position of Production Manager)		12	2,748
Senior Maintenance Engineer (in the position of Maintenance Manager)		2	458
Maintenance Engineer (Mechanical & Electrical)		6	1,374
Chemist		3	687
Assistant Chemist		3	687
Diploma Engineer Textile		30	6,870
Foreman (Mechanical & Electrical)		12	2,748
Skilled Labour / Operator		135	30,915
Semi-skilled / Un-skilled labour		150	34,350
Management Staff (Marketing, Accounts, Administration, Finance, etc.)		30	6,870
Total:		390	89,310

Table-7.7: Human Resource Requirement for the New Units (Continued):

	No. of Unit	Requirement per unit	Total
For Composite Knitting:	114		
Senior Textile Engineer (in the position of Factory Manager)		1	114
Mid-level Textile Engineer (in the position of Production Manager)		2	228
Textile Engineer (in the position of Production Manager)		6	684
Senior Maintenance Engineer (in the position of Maintenance Manager)		2	228
Maintenance Engineer (Mechanical & Electrical)		4	456
Chemist		2	228
Assistant Chemist		2	228
Diploma Engineer Textile		12	1,368
Foreman (Mechanical & Electrical)		4	456
Skilled Labour / Operator		60	6,840
Semi-skilled / Un-skilled labour		70	7,980
Management Staff (Marketing, Accounts, Administration, Finance, etc.)		20	2,280
Total:		185	21,090
Grand Total:			140,660

Source: Different New Projects Banking with Islami Bank Bangladesh Ltd.

It may seen from the table that for the projected demand of spinning, weaving, knitting and processing mills about 6,800 textile engineers, 10,400 textile technicians, 2,870 mechanical/production & electrical engineers would be required. Number of engineering graduates from the universities are sufficient to meet the demand. However, textile engineering graduates currently graduating from the lone textile engineering college may not meet the demand.

Chapter – VIII

Price Competitiveness of Textile Products of Bangladesh

8.1. Introduction

In the year 2005, some of the international policies regarding the export of textiles and garments will change, which may present the Bangladeshi textile industry the greatest challenges it has had to face so far. There is much speculation at present about the situation of the RMG exporters in the Post-MFA period, when the world Trade Organization, or WTO, instead of GATT will control the sector. Under the WTO all quotas will be removed, resulting in a free market worldwide. Bangladesh's garment and textile manufacturers will have to face steeper competition both in contest of quality & price. Keeping it in the mind and as yarn is the basic & main raw material of all type of fabrics, this part of the report analyzed the different component of cost of production of yarn, competitiveness of Bangladeshi yarn with India, the chipset source of yarn for Bangladesh till now & scope of reduction of cost of production of yarn and also a little overview on the production cost of two specific type of grey fabrics.

8.2. Cost of Production of Yarn in Bangladesh:

There are a lot of types of yarn in terms of count, quality and basic component and cost of production varies for all these. For this analysis export quality cotton yarn of 30 count Combed & Carded, these 2 main category of yarn utilized mainly in knit fabrics manufacturing have been considered. The cost of production also varies due to other input of the project like source of power (public supply from PDB/REB/DESA/DESCO or project's own power source by setting up Gas Generator). Considering cost data from typical industry the cost of production of yarn was calculated which is shown at Table 8.1 and Table 8.2 for captive power and public power respectively.

Table - 8.1. Present Cost of Production by utilizing Gas Generator as source of Power:

Item of Cost	Ne 30s Carded		Ne 30s Combed	
	Per Kg Cost (In Taka)	%	Per Kg Cost (In Taka)	%
Cotton & Others	82.73	66.59%	90.02	68.84%
Direct Labor	2.77	2.23%	2.98	2.28%
Depreciation	10.63	8.55%	11.44	8.75%
Utilities	3.51	2.82%	3.74	2.86%
Other Factory Overhead	3.16	2.54%	3.16	2.41%
General & Administrative Expenses	2.08	1.67%	2.08	1.59%
Financial Expenses	19.24	15.49%	19.24	14.71%
Sub-total.	124.11	99.90%	132.66	101.44%
Less- Income from Waste Cotton	2.00	1.61%	4.13	3.16%
Add - Installment of Term Investment	12.75	10.26%	13.69	10.47%
Total cost including depreciation:	134.86	108.55%	142.22	108.75%
Less- Depreciation	10.63	8.56%	11.45	8.75%
Total:	124.24	100.00%	130.77	100.00%

Source: Islami Bank Bangladesh Limited.

Table-8.2. Present Cost of Production by utilizing Public source of Power:

Item of Cost	Ne 30s Carded		Ne 30s Combed	
	Per Kg Cost (In Taka)	%	Per Kg Cost (In Taka)	%
Cotton & Others	82.73	63.28%	90.02	65.08%
Direct Labor	2.48	1.90%	2.73	1.97%
Depreciation	9.74	7.45%	10.47	7.57%
Utilities	13.89	10.62%	15.28	11.05%
Other Factory Overhead	2.83	2.16%	2.83	2.05%
General & Administrative Expenses	1.73	1.32%	1.73	1.25%
Financial Expenses	17.64	13.49%	17.64	12.75%
Sub-total:	131.04	100.24%	140.7	101.71%
Less- Income from Waste Cotton	2.00	1.53%	4.13	2.99%
Add - Installment of Term Investment	11.43	8.74%	12.23	8.84%
Total cost including depreciation:	140.47	107.45%	148.8	107.57%
Less- Depreciation	9.74	7.45%	10.47	7.57%
Total:	130.73	100.00%	138.33	100.00%

Assumption: Debt-Equity Ratio of the Project considered at 70:30, which is now becomes standard in case of Textile Industry in Bangladesh.

8.3. Present Cost of Yarn Imported from India

The cost of imported yarn (30 Ne Carded & 30 Ne Combed) of from India, the main source of imported yarn for Bangladesh, is shown in Table 8.3.

Table-8.3: Present Cost of Imported Yarn from Bangladesh :

Type	CFR Value per Kg		Other Import related cost (4% on CFR) (In Taka)	Duty & Tax (Import Duty (5%) + AIT (3%) + IDSC (2.5%) + 1P (2.5%) = 13%)	Total Cost including Duty (In Taka)	Total Cost excluding Duty (In Taka)
	In US\$	In Taka				
30 Ne Carded	2.10	123.60	4.94	16.07	144.61	128.54
30 Ne Combed	2.35	138.30	5.53	17.98	161.81	143.83

Source: Importer of Yarn of Narayongj.

8.4. Cost Comparison of Locally Produced and Imported (from India) Yarn

From the above cost analysis the comparative position of our locally produced yarn and yarn imported from India is being done and shown in Table 8.4.

Table-8.4: Cost Comparison of Locally Produced and Imported (from India) Yarn:

	30 Ne Carded (Amount in Taka)	30 Ne Combed (Amount in Taka)
Imported:		
Total Cost including Duty	144.61	161.81
Total Cost excluding Duty	128.54	143.83
Local:		
Produced by utilizing own power Source including Depreciation	134.86	142.22
Produced by utilizing own power Source excluding Depreciation	124.24	130.77
Produced by utilizing Public Source of Power including Depreciation	140.47	148.80
Produced by utilizing Public Source of Power excluding Depreciation	130.73	138.33

8.5. Scope of reduction of cost of production of Yarn

From the above analysis of cost of production it is found that –

- i) Raw materials cost is about 63% to 69% of total cost of production. As most of raw cotton consumed by our spinning mills are imported, so there is no scope of reduction of raw material cost by a considerable amount. It may be reduced to some extent by proper sourcing & perfect timing of order.
- ii) Direct labour cost is about 2% of total cost of production and as the projects under reference are almost automatic (labour required only for material handling, maintenance & other related works), there is no such scope of reduction of direct labour cost.
- iii) Utility cost is about 3% of total cost in case of own power source by gas generator and about 11% in case power supplied by PDB/REB/DESA. As such if the projects can be provided gas facility to utilize that to produce their own power (presently the projects of Dhaka & Chittagong region is getting this facility and projects of other region do not get this facility as there is no gas line to supply the projects till now), the production cost of the units presently utilizing public source of power can be reduced by about 8%.
- iv) Financial expense is within 13% to 16% of total cost. In case of the projects under study the profit / interest rate on bank investment / loan is 14%. If this rate can be reduced to a reasonable rate between 10% to 12% then the production cost will be reduced by 2% to 4%.
- v) Installment of term investment (principal) is about 9% to 10.50% of total production cost, where as depreciation fund (non-cash expense) is about 7.50% to 9%, i.e. installment of term investment is more than the depreciation by about 1.50% of total cost. This causes an extra burden on the project. This high installment size is due to higher borrowed capital of the projects. If projects can manage equity fund upto the extent, that the installment of the term loan can be serviced by the depreciation fund, then the production cost can be reduced upto 1.50%.
- vi) The wastage of raw material in projects under study is 10 – 12% in case of carded yarn and 20-23% in case of comber yarn and this quantity is reasonable. Out of this wastage about 80% is re-useable in Rotor Spinning to produce open end yarn.

From the above analysis it reveals that if we can take all the above measures total production cost can be reduced by at least 5% (in case of projects utilizing their own power).

8.6. Present Cost of Production of Grey Fabrics

There is a lot of construction of grey fabrics and cost of production varies for all the constructions. For this analysis export quality grey fabrics of specific 2-construction utilized mainly for Trousers manufacturing have been considered as reference. The total cost along with its break-up is shown in Table 8.5.

Table-8.5. Cost of Production of Grey Fabrics:

Item of Cost	20x20 / 108x58 / 62" Gray		10X10/ 74X52 / 58" Gray	
	Per Meter Cost (In Taka)	%	Per Meter Cost (In Taka)	%
Raw Materials	34.30	76.99%	27.30	74.89%
Direct Labor	1.00	2.24%	0.89	2.45%
Depreciation	1.45	3.25%	1.29	3.55%
Utilities	1.00	2.24%	0.89	2.45%
Other Factory Overhead	1.25	2.81%	1.12	3.06%
General & Administrative Expenses	1.00	2.24%	0.89	2.45%
Financial Expenses	3.20	7.18%	2.86	7.84%
Sub-total:	43.20	96.97%	35.25	96.69%
Add - Installment of Term Investment	2.80	6.29%	2.50	6.86%
Total cost including depreciation:	46.00	103.25%	37.75	103.55%
Less- Depreciation	1.45	3.25%	1.29	3.55%
Total:	44.55	100.00%	36.45	100.00%

Source: Islami Bank Bangladesh Limited.

8.7. Present Cost of Imported Grey

The average present cost of imported grey is shown in Table 8.6.

Table-8.6: Present Cost of Imported Grey:

Type	CFR Value per Kg		Other Import related cost (4% on CFR)	Total Cost (In Taka) (Considering Duty free import for utilization in Garments)
	In US\$	In Taka		
20x20 / 108x58 / 62" Gray	0.75	43.95	1.76	45.71
10X10/ 74X52 / 58" Gray	0.60	35.16	1.41	36.57

Source: Islami Bank Bangladesh Ltd.

8.8. Cost Comparison of Locally Produced and Imported Grey

Total production cost of grey fabrics of local weaving mills is slightly higher than the imported fabrics. But presently, the RMG's using the local grey are getting Substitute Cash Assistance (SCA) @ 10% on export value. Moreover, the weaving mills are also getting SCA on their deemed export. But the SCA will not be available after 2004. As such after 2004 if the total production cost can not be reduced it will be difficult for the weaving mill of Bangladesh to sustain in the market.

From the break-up of costs in Table 8.5 it is found that about 75% of total cost is of raw material, i.e. yarn. If the production cost of yarn can be reduced the production cost of grey will automatically be reduced. There is also scope of reduction in cost by reducing the interest rate on bank's loan (financial charges is more than 7% of total cost) and cost of utilities by reducing the price of electricity & gas (utility cost is more than 2% of total cost).

Chapter-IX

The 2005 Challenge and Textile Policy of Bangladesh

9.1. Introduction

In the year 2005, some of the international policies regarding the export of textiles and garments will change, which may present the Bangladeshi textile industry the greatest challenges it has had to face so far. There is much speculation at present about the situation of the RMG exporters in the Post-MFA period, when the WTO regulation will come into force. Under the WTO, all quotas will be removed, resulting in a free market worldwide. Bangladesh's garment and textile manufacturers will have to face steeper competition from countries such as India, Pakistan, China, and Thailand, from whom the country now imports fabric to meet the demands of its RMG sector. When the free market is established, all these countries will be able to expand their RMG exports, now limited by quotas. As a result, these countries will be able to utilize more of their locally produced yarn and fabrics internally, resulting in the rise of prices for these in the export market, putting pressure on the industries of countries such as Bangladesh.

9.2. Government's Policies and Strategies to Face 2005

9.2.1. Textile Policy – 1995

The Government of Bangladesh has devised a Textile Policy in 1995 designed to make the country competitive in the free market by 2005.

Main Objectives of Textile Policy – 1995:

The main objectives of Textile Policy-1995 is to—

- 1) achieve self-sufficiency in fabrics to meet the requirement of the export oriented RMG industry and also the local requirement, and-
- 2) direct export of fabrics.

Methodology of Textile Policy:

The methodologies of the Textile Policy-1995 to achieve its objectives are –

- 1) Improving of textile sector by encouraging investment by private sector. In this regard steps to be taken to help the private sector to get loan in soft terms and to reduce government's restriction on importation of raw materials.
- 2) Complete modernization of textile sector by balancing, modernization, replacement & expansion (BMRE) of its different sub-sectors.
- 3) Fulfillment of demand-supply gap of different sub-sectors of textile by establishing new mills.
- 4) Encouraging of development of textile sector in private sector and acceleration of privatization of the textile mills of public sector by floating of shares & creating joint-venture with private entrepreneurs along with privatization by selling those through tender.
- 5) Utilization of un-utilized capacity of specialized & power loom sub-sectors to fulfill the local requirement and requirement of export oriented garments industry and also direct export of fabrics by implementing the restructuring & rehabilitation program of this sub-sector.
- 6) Combined steps by government & private sectors to solve the present problems towards technological improvement of the handloom industries and to ensure proper distribution of the products of this sector.
- 7) Providing of complete support to the effort taken/ to be taken by government & private sectors towards creation of employment & quick improvement of economic condition of rural population by improving the overall position of Silk sector through cultivation & production of Silk fabrics by utilizing modern technology and distribution of Silk products in local & international market.
- 8) Restructuring of import tax & export benefit on the primary & secondary raw materials of textile sectors to make Bangladeshi textile products competitive in both local & international market.

- 9) Improvement of quality of manpower working in textile sector to make a scope to textile sector for taking the leading role towards industrialization of our country by implementation of primary training, training for improvement of skill, improvement of design, research & development works, improvement in management and implementation of MIS & computer.

Different Problems and strategies to solve the problems of different sub-sectors of Textile Industry

The Textile Policy – 1995 also states different problems & the strategies to solve the problems of different sub-sectors of textile industry, brief of which are given below:

Spinning:

Main problems in spinning sub-sector are, outdated machinery specially in the public sectors mills, electricity failure, unavailability of raw materials and high tax on raw materials & spare parts, high wastage rate of raw materials specially in the public sector mills. lacking of proper maintenance of machinery & equipment and slow process of privatization of public sector mills.

To solve the above mentioned problems in spinning sub-sector the following strategies were suggested in the policy:

- (1) To meet-up the present requirement of yarn, establishing of new units in private sectors will be encouraged. At present to meet-up the demand of yarn for both local & export oriented readymade garments there is scope to establish 116 new spinning mills having capacity of 25,000 spindles or equivalent each.
- (2) In the last year of implementation of GATT treaty i.e. in the year 2005 total demand-supply gap will stand at 771-million kg and to meet this demand it will require to set-up more 126 new spinning mills (as per present assessment the total number stands at 89).

- (3) To improve the capacity & efficiency of the old & imbalanced mills, BMRE program will be strengthened along with establishing of new unit.
- (4) To supply un-interrupted power to the textile mills, required steps will be taken by discussing the issue with PDB, DESA, REB and Electric, Fuel & Mineral Resources Ministry.
- (5) To set-up own power generator in the mills to supply required quantity of un-interrupted power, government will provide its support.
- (6) Training facilities will be improved, to improve the skill of manpower related with this sector.
- (7) To make our textile products competitive with the foreign competitor, steps will be taken to re-structure the duty & tax.
- (8) Steps will be taken to provide loan in easy terms to import raw materials & spare parts.

Weaving:

Main problems in weaving sub-sector are-

- (1) Our power loom & specialized textile sub-sector have huge capacity, but we could not utilize most of their capacity though there is huge demand of fabrics in export market due to-
 - outdated machinery,
 - small unit established scatteredly without having any facility of back processing,
 - most of the units are not able to produce cotton and mixed fabrics (can produce only synthetic fabrics) specially of the public sectors mills, etc.
- (2) Beside the above technical problems there are problems like – high price of yarn, high import duty on yarn, electricity failure, un-availability of working capital, fund crisis for BMRE of the units, etc.

To mitigate the above mentioned problems in weaving sub-sector the following strategies were suggested in the policy:

- (1) To meet-up the present requirement of gray fabrics, establishing of new units in private sectors will be encouraged. At present to meet-up the demand of fabrics for both local & export oriented readymade garments there is scope to establish 223 new weaving mills having capacity of 10.00 million meter each.
- (2) In the last year of implementation of GATT treaty i.e. in the year 2005 total demand-supply gap will stand at 4750-million meters and to meet this demand it will require to set-up more 252 (i.e. total 475 of 10.00 million meter capacity each) new weaving mills (as per present assessment the total number stands at 230).
- (3) Beside establishing new units, to make the small power loom & specialized units financially profitable, those will be brought under group concept and financial assistance will be provided for restructuring those through different Banks.
- (4) Duty & tax on yarn will be reduced / justified. Specially the duty & tax on artificial fiber & yarn will be reduced to a competitive position with cotton & cotton yarn

Hand Loom Industry:

Main problems in Hand loom Industry are-

- (1) High price of yarn & other raw materials.
- (2) Unsmooth supply of yarn, dye & other chemicals for processing of yarn & fabrics.
- (3) Problem in getting working capital loan from institutional sources in soft terms.
- (4) Due to problems in getting working capital loan from institutional sources, the weavers have to depend on the local lender to purchase raw materials on high interest rate.
- (5) Due to lacking of training the weaver are not able to operate more productive semi-automatic & power loom and as such they are engage in traditional process.
- (6) Lacking of organization of weaver.

To solve the above mentioned problems in hand loom industry the following strategies were suggested in the policy:

- (1) Measures like reduction of duty & tax, will be taken to reduce the cost of yarn & dyes-chemicals.
- (2) Supervised credit system will be established for long term & working capital loans to meet up the demand of weaver to convert their hand loom to power loom & to purchase different related spares and also to fulfill the demand of raw materials.
- (3) Training will be provided to improve the skill of our weaver so that they can produce quality fabrics which can be utilized by the export oriented garments units.
- (4) Various means of encouragement and exposure will be established such as exhibitions and competitions.

Dyeing, Printing & Finishing:

Main problems in dyeing, printing and finishing industries are-

- (1) Due to non availability of required facilities (like modern & automatic machinery) the existing dyeing, printing & finishing units are not being able to produce export quality fabrics.
- (2) Since spinning & weaving units are not capable to meet the demand of quality yarn & gray fabrics, the dyeing, printing & finishing units have to depend on imported gray fabrics. But they have to face different problems during exporting their fabrics produced by utilizing imported gray fabrics.

To solve the above mentioned problems in dyeing, printing & finishing sub-sector the following strategies were suggested in the policy:

- (1) To meet-up the present requirement of fabrics, establishing of new units with appropriate modern technology in private sectors will be encouraged. At present to meet-up the demand of fabrics for both local & export oriented readymade garments there is scope to establish 223 new dyeing, printing & finishing mills having capacity of 10.00 million meter each.

- (2) In the last year of implementation of GATT treaty i.e. in the year 2005 total demand-supply gap will stand at 4750-million meters and to meet this demand it will require to set-up more 252 (i.e. total 475 of 10.00 million meter capacity each) new mills (as per present assessment the total number stands at 230).
- (3) BMRE program will be taken to make the existing units able to produce quality products.
- (4) Bonded warehouse facility will be provided until local production of gray can meet the quality and quantity required by the sub-sector.
- (5) Restriction on import of gray fabrics for export oriented units will be withdrawn.
- (6) Financial assistance will be provided to set-up new units and meet-up working capital requirement.
- (7) Duty on dyes & chemicals will be withdrawn.

9.2.2. Industrial Policy and others

To aid the expansion of the textile industry in Bangladesh, the government is currently providing numerous incentives, which are as follows:

1) Bonded warehouse facilities

These facilities allow export-oriented factories to import their raw materials duty free. However, the bonded warehouses privileges have not been monitored closely enough, which has resulted in being abused. The materials imported duty free to be used for producing garments intended for export are sometimes released into the local market. The leakage of these inexpensive items into the local market cause unfair competition for local producers.

2) Duty Exemption Drawback (DED)

Factories which do not take advantage of the bonded warehouse facilities and import their raw materials independently can claim the duty they paid under the Duty Exemption Drawback (DED), provided that the finished goods are being exported. This system is mostly applicable for the dyeing-finishing sub-sector of the textile industry.

3) 15% Substitute Cash Assistance (SCA) for export

The producers who do not use their DEDO or the bonded warehouse privilege, and utilize local materials obtain 15% Substitute Cash Assistance (SCA) on their export from the government, which was 25% in previous years.

4) Tax holiday

Tax holiday facilities will be available for five or seven years for new industrial enterprise depending on its location. As per current provision if the industrial enterprise is located at Dhaka and Chittagong division (excluding 3-Chittagong Hill Tract districts) tax holiday will be for five years and if located other than the above mentioned location it will be seven years. The period of such tax holiday is being calculated from the month of commencement of commercial production of the industry.

5) Depreciation Allowance

Industrial undertaking not enjoying tax holiday will enjoy accelerated depreciation allowance. Such allowance is available at the rate of hundred percent of the cost of the machinery or plant if the industrial undertaking to set up in the areas falling within the cities of Dhaka, Narayangonj, Chittagong and Khulna and areas within the radius of ten miles from municipal limits of those cities. If the industrial undertaking is set up elsewhere in the country, accelerated depreciation is allowed at the rate of eighty per cent in the first year and twenty per cent in the second year.

6) Duty free import of capital machinery, raw materials and spare parts

Duty free import of capital machinery, raw materials and spare parts upto ten percent of the value of such capital machinery is being allowed for the export-oriented and export-linkage industries.

7) Financing against Export L/C

The arrangement for providing financing up to 90% of the value against irrevocable and confirmed Letter of Credit / Sales Agreement is being allowed.

8) Free transfer of land

An Entrepreneur will not be required to pay transfer fee and / or capital gain tax in case he/she wants to use his / her own land to establish a new enterprise under his / her ownership or wants to convert his / her existing enterprise into a "Limited Company" without changing the ownership structure.

9) Income tax rebate

Income tax rebate on export earnings is being given at the rate of 50 percent.

9.3. Analysis of the Textile Policy

From analysis of the Textile Policy, it appeared to be very theoretical and failed to address a number of issues like the following:

1. The policy calls for the establishment of many new factories, but does not provide any scheme for financing them.
2. The lack of training and technology is mentioned, but nothing mentioned how we can increase skills of our workforce and engineers or develop new skill workforce and engineers.
3. No suggestions are made for setting up institutions to conduct the technical and marketing research needed to upgrade the quality of Bangladeshi products to make them more appealing in the international market.
4. The need for the expansion of the Bangladesh's infrastructure such as - road, port, and railway capacities to accommodate increased imports and exports is not mentioned.
5. The great problems arising from the shortage of land on which to build the necessary factories is also not considered.
6. The policy states that environmental pollution is negligible, but does not go further into the matter. (But, it is found from visit of different dyeing-finishing factory that affluent treatment and disposal in the industry is a very serious problem.)
7. The need for more power is mentioned, but no plans have been devised on how the expansion will be undertaken.

8. The policy states that Government will provide its support to set-up own power Generator in the Mills to supply required quantity of un-interrupted power, but no specific scheme is undertaken for this purpose. More over duty has been imposed on import of Generator.
9. The policy states that steps will be taken to make our textile products competitive in the world market but no specific guideline has been given that what steps will be taken.

9.4. The Future of the Textile Industry in Bangladesh

The textile industry in Bangladesh has grown in an unplanned manner and a critical demand-supply gap has arisen for both yarn and fabric. The crisis will naturally deepen unless appropriate backward linkages, the incorporation of the fundamental steps in the textile industry all through to the RMG industry, can be built to meet the rapidly approaching challenges in the global textile market. As the population is growing and the standard of living is increasing in Bangladesh, the demand for textiles is increasing rapidly. This presents an urgent need to dramatically increase capacities in spinning, weaving, knitting, and dyeing-printing-finishing sub-sectors. This will require the adoption of the most modern and appropriate technology to ensure quality products at competitive prices.

The possibility of increased yarn production in Bangladesh is an issue that has been looked into extensively as yarn is the main raw material of fabrics. Investigations have revealed the country actually has a comparative advantage over all competitors in terms of the expense of yarn production. However, in regards to the total yarn cost, Bangladesh's advantage over India and Pakistan disappears, even though it remains competitive with other producers. The outcome for the Bangladeshi spinning mills of such price differentials with India and Pakistan is that Bangladeshi mills obtain raw cotton of the same quality at prices which are approximately 20% higher than the Indian mills and Pakistani mills as Bangladesh has to import raw cotton on the other hand India & Pakistan are supplying raw cotton to their spinning mills local raw cotton at a subsidize rate. In addition, Bangladesh's spinning mills have to pay another 6 to 7% for handling, freight, and commission charges which put them in a disadvantageous situation.

Bangladesh has a lower waste percentage than all its competitors. Power along with Korea is the cheapest in Bangladesh amongst all the yarn producers. The country also has a very low depreciation rate and a fairly low labour cost as well, aided by a low conversion cost as well. However, the price of auxiliary materials in Bangladesh is the highest among all the yarn producers, as is the price of raw materials. Due to these two factors Bangladesh loses its comparative advantage over India and Pakistan.

The new Infrastructure Development Surcharge (IDS), on all imports, which was stipulated in the 1997/98 fiscal year, added another 2.5% to the price of imported raw cotton.

The weaving and knitting sub-sectors will also need to expand at a rapid rate, as there is a large demand-supply gap in the country. With increased investment in the sub-sectors and modernized machinery, Bangladesh could profit greatly from larger and more competitive weaving and knitting sectors.

As the current dyeing facilities are mostly dependent on imported fabrics, they are expanding at a rate which is not dependent on any of the other sectors. However, as local gray becomes more competitive, and its production is increased, the dyeing, printing, and finishing sub-sector will also need to expand to accommodate for the increased supply.

The leakage from bonded warehouse facilities and smuggling of materials across borders also need to be monitored closely in order to assure the competitiveness of the local industry. The reduction of such problems will automatically improve the market position resulting an improved opportunities for the expansion of the Bangladeshi textile industry.

Chapter-X

Conclusion and Recommendation

The importance of the textile industry in the economy of Bangladesh is very high. Furthermore, the industry is expected to be the catalyst in the industrialization of Bangladesh, and has been declared as a thrust sector by the government.

The explosive growth of the RMG industry in the country, has not been supported by the growth of backward linkage facilities. As such the RMG industry is almost dependent on imported fabric, causing the foreign exchange earning from the RMG industry extremely low. This value addition could obviously be boosted if appropriate backward linkages were established in the textile industry.

After phasing out of MFA the competitive environment for Bangladesh will change. Many new competitors will challenge Bangladeshi garments in world market. Beside the trade relationship Bangladesh has now with its trading partners in this sector (the suppliers of yarn & fabrics) is likely to change after 2004. Most of these suppliers sell yarn & fabrics to Bangladesh as they have excess production. After 2004, these supplier countries will find it more economical to use the surplus yarn & fabrics to manufacture more garments for export as there will be no quota and those countries will be allowed to export any quantity and quality of garments after phasing out of MFA. As such, in these countries exportable quantity of yarn & fabrics will decrease. In other words traditional sources of yarn and fabrics of Bangladesh is likely to shrink. Unless Bangladesh can produce the yarn and fabrics itself, it will be difficult for Bangladesh not only to maintain the present growth of RMG export rather to maintain the present level of export.

Therefore, it is extremely important that some remedial measures are taken for the effective development of the backward linkage textile industry to meet the post-MFA challenges. If proper backward linkage can be set-up, it will not only ensure raw material supply to the RMG, it will also reduce cost of production, shorten lead time needed to complete order, and decrease conversion cost and other cost of doing business in general.

But, before taking decision for developing additional capacity of backward linkage textile industries it is important to know whether this backward linkage will be viable or not. After study of the overall factors it is realized that Bangladesh's low labor cost (in case of Spinning & Weaving average labour cost per operator hour is about US\$ 0.25 in Bangladesh, which is US\$ 0.57 in India, US\$ 0.34 in Pakistan, US\$ 0.40 in Sri Lanka & US\$ 0.41 in China [Ref-12]), skill development potential, present expanding market, scope of reducing the conversion cost to a favourable position (by reducing the price of utilities, financial charges on bank loans and providing other incentives from the government like SCA, duty free import of machinery, spares & machinery, etc.) will easily be able to make this backward linkage viable even after 2004. In addition, most developed countries are turning away from industries like the textile industry and investing in other sectors, thus creating a vacuum in the market, which will also help backward linkage industry to become viable.

To become self-sufficient in textile an amount of Tk. 212,020.00 million will be required within 2004 which is about 105% of Bangladesh's ADP (Tk. 203,000.00 million) for 2003-2004 and about 6-times of total industrial term loan disbursed by the bank's (Tk.35,050.00 million) [Ref-13] in the year 2002.

From all the discussions and analysis the following conclusion and recommendation can be made:

Conclusion

1. The investment needs and future uncertainty, it can be concluded that Bangladesh will not be able to invest Tk.212,020.00 million to develop the total capacities in the backward linkage industries required to meet the demand of RMG after 2004.
2. It is necessary to make the RMG industry more competitive than it is now because post MFA world market will create new challenges of Bangladesh. One such possible challenge will be that the traditional sources of supply will shrink which may adversely effect RMG industry of Bangladesh. For example, the supply of cheap yarn and fabrics from India, China and Pakistan will decrease because they will first use their surplus yarn and fabrics to manufacture garments to create new value addition and earn more foreign exchange by exporting them.

Therefore, Bangladesh must try to reduce its dependence as much as it can on foreign sources for yarn and fabrics by increasing its capacity to produce that much of yarn and fabrics which its traditional suppliers will refuse to supply because they themselves will be using them for the production of garments. This means Bangladesh must create a certain amount of new capacity to spin yarn, weave cloth and process gray fabrics. Bangladesh can give emphasis to create new capacity upto such level that it would not have to import knit fabrics for export market, at least can supply 35-40% of woven fabrics for export market and can supply 100% yarn to the domestic knitting and weaving units. For the remaining quantity of fabrics, it will still continue to depend on imported fabrics as do Hong Kong and Singapore and this should not create serious problem for Bangladesh to remain competitive in the world market after 2004.

3. It is unlikely that Bangladesh's traditional suppliers will stop exporting cotton or yarn of fabrics completely by diverting all these resources to the production of garments. This will go against their comparative advantages. Bangladesh's traditional suppliers particularly India, Pakistan, China and Thailand which are at relatively higher stage of development and rich compared to Bangladesh, will in near future move to the production of high technology higher value items where return on investment will be much higher than that in RMG. The garments industry being migratory in nature will continue to thrive in a country like Bangladesh as long as labour remains cheap. Therefore, for Bangladesh the sources of supply of cotton yarn and fabrics will not completely dry out, it may shrink to some extent.
4. Investment in these sub-sectors will not be attractive unless the government reforms its policies of financial support. The cost of financing the linkage projects must be brought down. The cash incentives should continue. In addition, long term loan must be available at reasonable interest rates (current rates are between 13% to 15% which should not be more than 10%)

5. Investment in backward linkage textile industries, particularly in composite mills is quite large. Currently new enterprises are not allowed to collect fund from capital market before completion of at least 2-years of its operation. But if government has modified this law and allowed the textile industries to collect fund as equity to set-up new project then it will help the projects to be come more competitive by reducing financial burden on the project.
6. As investment in textile industries is quite large and most of the cases interested entrepreneurs find it very difficult to manage the equity fund required to get financial support from the banks, joint venture can be encouraged by providing special incentives to foreign investors in this sector from the government.
7. The Floor workers, supervisors and production managers in general are not properly trained. This is true of spinning, weaving, dyeing, processing and garment manufacturing. Bangladesh must improve substantially both labour productivity and managerial efficiency. Human resources development must be given high priority otherwise equity support and concessional rates of interest will not be of much help to make the sector viable. The quality of yarn and fabrics in addition to design and making of the garments must be of high standard. The competitors of Bangladesh, namely, Hong Kong, India, Sri Lanka and others have established specially training institutes. For example, the Institute of Textile and clothing at Hong Kong Polytechnic University offers three year diploma programs in relevant fields.
8. The importance of product and market diversification has already been emphasized. So far Bangladesh did not need much marketing efforts because most of the firms have been working as sub-contractors of foreign buying houses. But to remain competitive in the post MFA world market, the Bangladeshi garments should have to develop their own marketing firms to get direct order. These firms must be able to identify, through market research, new market segments. By successfully exporting non-quota items, Bangladeshi entrepreneurs have demonstrated that they can get into new markets.

9. As a member of WTO Bangladesh must insist to have duty free access to such large markets as India, Japan and China. There are many new types of garments [it needs research to identify the specific market segments] which Bangladesh can produce with the support of the new backward linkage facilities and serve these markets. As one of the 48 least developed countries of the world, Bangladesh should resort to the provisions of WTO which entitle Bangladesh to have non reciprocal market access to such countries as mentioned. If Bangladesh can get into the markets of Japan, India ASEAN and China, it will not have problem in maintaining its leadership in RMG exports after 2004. However, the success will mostly depend on how efficiently Bangladesh conducts its business/economic diplomacy.
10. Above all, a cohesive environment must prevail in the country. The law and order necessary to operate the industry must be maintained. Mustanism, hartals, illegal trade unionism etc. leading to stoppage of work at parts, transport movement etc. must not be allowed to disrupt the normal operation of the industry. Infrastructural bottlenecks must further improve, Bangladesh must gain confidence of the investors, local and foreign.

Recommendation:

It is not practical to think about self sufficiency in textile within 2004. Keeping in mind the post MFA challenges Bangladesh has to at least develop capacity of its textile mills within 2004 so that those can supply –

- i) 100% requirement of knit fabrics & 35-40% of requirement of woven fabrics to the RMG for export market (as the construction and processing of knit fabrics is less complicated than the woven fabrics and Bangladesh has already gain required expertise in this sector).
- ii) 85% of fabrics required for domestic market (assuming that 15% of total requirement of fabrics / garments for domestic market will be imported due to difference of choices of local people), and-
- iii) 100% requirement of yarn for these weaving and knitting mills.

For this purpose an approximate total of Tk.76,588.00million (detail shown at Annexure-C) will be needed which is equivalent to 38% of ADP of 2003-2004 and about 2.20 times of the total term loan disbursed during the year 2002 by Bangladeshi banks. From reports on banking sectors published recently in different daily news papers it appears that at present about Tk. 100,000.00 million is held as idle. As such it will not be any problem for Bangladeshi entrepreneurs to get bank financing to set-up these units. After watching the actual position of RMG export after 2004, the decision for further expansion of capacity of textile may be taken.

But to make the entrepreneurs more interested government has to take steps to provide incentives to make its textile more competitive. For this government may take initiative to supply utilities to the textile mills at a reduced rate, to make bank's finance available for this sector at a reduced interest rate, to allow the entrepreneur to collect equity fund from capital market even at the initial stage of the project and to provide other incentives like duty & tax free import of machinery & spares, SCA, etc.

Almost 100% of export of RMG is being handled by Chittagong port and the present capacity of the same is not at all sufficient to handle the total export-import of goods being done through it which causes delay. Immediate steps should have to be taken to increase its capacity. This will reduce the total handling time i.e. the total lead time of RMG export.

Bangladesh has to take aggressive marketing strategy to diversify its RMG market and also to diversify its product range, particularly from low end to high end products to face the probable challenges after 2004.

References

1. Bangladesh Textile Mills Association(BTMA), Moon Mansion (6th Floor), 12-Dilkusha C/A, Dhaka.
2. Annual Report 2002 of Bangladesh Textile Mills Association.
3. Annual Report 2000-2001 of Bangladesh Textile Mills Association.
4. Annual Report 1998-1999 of Bangladesh Textile Mills Association.
5. Bangladesh Garments manufacturers and Exporters Association (BGMEA), BTMC Bhaban, 7-9 Kawran Bazar, Dhaka – 1215.
6. Statistical Year Book of Bangladesh 2000, published by Bangladesh Bureau of Statistics, Planning Division, Ministry of Planning, Government of the People's Republic of Bangladesh.
7. Annual Report 2001-2002 of Bangladesh Bank, Published by Bangladesh Bank.
8. Textile Policy of Bangladesh 1995, published by Ministry of Textile, Government of the People's Republic of Bangladesh
9. Industrial Policy 1999, published by Ministry of Industries, Government of the People's Republic of Bangladesh.
10. Islami Bank Bangladesh Limited, 40-Dilkusha C/A, Dhaka.
11. www.cpabd.com, the web page of Chittagong Port Authority.
12. www.textileworld.com, the web page of Textile World.
13. www.bangladesh-bank.org, the web page of Bangladesh Bank.
14. Handbook on the Scheme of the European Community, Published by United Nations, New York and Geneva, December 2002.
(also available at www.europe.eu.int/comm/taxation-customs/dds/en/html)
15. Ministry of Textile, Government of the People's Republic of Bangladesh.

Annexure-A

Forecasting of Demand of Woven & Knit Fabrics for Export Market:

(By Regression Analysis applying Least Squares Method)

Formula applied: $Y = a e^{bT}$

i.e. $\ln Y = \ln a + bT$

Year	T	Consumption of Woven Fabrics in million kg (Y1)	Consumption of Knit Fabrics in million kg (Y2)	LnY1	LnY2
1997-1998	1	1193	609	7.084226	6.411818
1998-1999	2	1179	681	7.072422	6.523562
1999-2000	3	1234	815	7.118016	6.703188
2000-2001	4	1317	946	7.183112	6.852243
2001-2002	5	1386	1140	7.234177	7.038784

a. For Woven Fabrics

T	Ln Y1
1	7.084226
2	7.072422
3	7.118016
4	7.183112
5	7.234177

By applying the least square method the value of the constraints are found as under:

b	Ln a	a	r ² (Coefficient of determination)
0.041059	7.015213	1113.444	0.994

By applying the value of the constraints in the formula the forecasted demand of woven fabrics are:

Year	T	Forecasted Y1
2002-2003	6	1424.488
2003-2004	7	1484.194
2004-2005	8	1546.402

Annexure-A (Continued)**b. For Knit Fabrics**

T	LnY2
1	6.411818
2	6.523562
3	6.703188
4	6.852243
5	7.038784

By applying the least square method the value of the constraints are found as under:

b	Ln a	a	r ² (Coefficient of determination)
0.158261	6.231136	508.3325	0.893

By applying the value of the constraints in the formula the forecasted demand of knit fabrics are:

Year	T	Forecasted Y2
2002-2003	6	1313.831
2003-2004	7	1539.116
2004-2005	8	1803.031

Annexure-B.1

Project Cost of a Spinning Mill able to Produce Export Quality Yarn:

(In '000' Taka)

Sl. No.	Item	Cost in Foreign Currency	Cost in Local Currency	Total Costs
1	LAND			
	Land (3.00 Acres) & Land development	0	34,460	34,460
	Sub-Total :	0	34,460	34,460
2	BUILDING AND OTHER CIVIL CONSTRUCTION			
2.a	Factory Building (92,200 sqft)	0	80,695	80,695
2.b	Raw Material Godown (10,000 sqft)	0	6,000	6,000
2.c	Administrative Building & Others (24,500 sqft)	0	9,840	9,840
2.d	Boundary Wall, Internal Road, Machine Foundation, etc	0	10,485	10,485
	Sub-Total :	0	107,020	107,020
3	IMPORTED MACHINERY AND EQUIPMENT			
3.a	Main Machinery	551,146	0	551,146
3.b	Marine Insurance (1%)	0	5511	5511
3.c	C & F and Inland freight (1%)	0	5511	5511
3.d	L/C Commission & Bank Charge (1%)	0	5511	5511
	Sub-Total :	551,146	7,096	567,680
4	LOCAL MACHINERY AND EQUIPMENT			
4.a	Overhead Duct	0	4,000	4,000
4.b	Water treatment Plant (for Generator)	0	1,000	1,000
4.c	Deep Tube-well	0	1,000	1,000
4.d	Relling Machine	0	700	700
4.e	Work Shop Machinery	0	400	400
4.f	Pipe & fittings for Compressed Air & Gas and Trolley, Doff Box, etc.	0	1,900	1,900
	Sub-total:	0	9,000	9,000
5	ERECTION AND INSTALLATION			
5.a	Mechanical & Electrical (0.50%)	0	4,198	4,198
5.b	Civil	0	350	350
	Sub-Total :	0	4,548	4,548
6	SECURITY DEPOSIT			
6.a	Telephone	0	50	50
6.b	Gas & others	0	2,000	2,000
	Sub-Total :	0	2,050	2,050
7	FURNITURE, FIXTURE AND OFFICE EQUIPMENT	0	900	900
8	PRE - OPERATING EXPENSES	0	2,685	2,685
	GRAND TOTAL :	551,146	167,758	728,342

Ref: Islami Bank Bangladesh Limited.

Annexure-B.2

Project Cost of a Composite Weaving Mill able to Produce Export Quality Fabrics:

(In '000' Taka)

Sl. No.	Item	Weaving Unit	Dyeing-Finishing Unit	Total
1	LAND AND LAND DEVELOPMENT (5-Acres + 5-Acres)	9000	9000	18000
	Sub-Total :	9000	9000	18000
2	BUILDING AND OTHER CIVIL CONSTRUCTION (Weaving -90,000 Sft + Dyeing-Finishing -100,000 sft.)	45500	51000	96500
	Sub-Total :	45500	51000	96500
3	IMPORTED MACHINERY AND EQUIPMENT			
3.a	Main Machinery	258330	306120	564450
3.b	Marine Insurance (1%)	2583	3061	5644
3.c	C & F and Inland freight (1%)	2583	3061	5644
3.d	L/C Commission & Bank Charge (1%)	2583	3061	5644
	Sub-Total :	266079	315303	581382
4	LOCAL MACHINERY AND EQUIPMENTS			
4.a	Tubewell & Others	1000	2500	3500
4.b	Electric Cables & others	2000	8000	10000
4.c	Overhead Ducting	1500	-	1500
4.d	Others	500	2500	3000
	Sub-Total :	5000	13000	18000
5	ERECTION AND INSTALLATION			
5.a	Mechanical & Electrical (2.5% of Machinery Cost)	6650	7880	14530
5.b	Civil	500	500	1000
	Sub-Total :	7150	8380	15530
6	SECURITY DEPOSIT			
6.a	Telephone	25	50	75
6.b	Gas & others	4000	6500	10500
	Sub-Total :	4025	6550	10575
7	FURNITURE , FIXTURE AND OFFICE EQUIPMENT			
7.a	Office Furniture & Fixture	500	-	500
7.b	Office Equipment	300	-	300
7.c	Fire Fighting Equipment	300	-	300
	Sub-Total :	1100	-	1100
8	VEHICLES			
8.a	Microbus/Car	600	1500	2100
8.b	Goods Delivery Truck	900	5000	5900
	Sub - Total :	1500	6500	8000
9	PRE - OPERATING EXPENSES	2000	2000	4000
	Sub-total.	2000	2000	4000
	GRAND TOTAL :	341,354	411,733	753,087

Ref: Islami Bank Bangladesh Limited.

Annexure-B.3***Project Cost of a Composite Knitting Mill for Export Market:***

Sl. No.	Item	Cost (In '000' Taka)
1	LAND & LAND DEVELOPMENT (1.50-Acres)	7,000
2	BUILDING & OTHER CIVIL CONSTRUCTION (30,000 sft)	20,000
3	MACHINERY & EQUIPMENT	127,000
4	OTHER ASSETS	4,000
5	OTHER COSTS/ EXPENSES	7,000
	Total :	165,000

Ref. Islami Bank Bangladesh Limited.

Annexure-B.4

Project Cost of a Spinning Mill for Local Market:

(In '000' Taka)

Sl. No.	Item	Cost
1	LAND AND LAND DEVELOPMENT (3-Acres)	6000
2	BUILDING AND OTHER CIVIL CONSTRUCTION (90,000 sft.)	49500
3	MACHINERY AND EQUIPMENT	185000
4	OTHER FIXED ASSETS	5000
5	OTHER EXPENSES (Erection Installation, Security Deposit, etc)	7000
	TOTAL :	252,500

Ref: Islami Bank Bangladesh Limited.

Project Cost of a Composite Weaving Mill for Local Market:

(In '000' Taka)

Sl. No.	Item	Weaving Unit	Dyeing-Finishing Unit	Total
1	LAND AND LAND DEVELOPMENT (5-Acres + 5-Acres)	9000	9000	18000
2	BUILDING AND OTHER CIVIL CONSTRUCTION (Weaving -90,000 Sft.+ Dyeing-Finishing-160,000 sft.)	40000	57000	97000
3	MACHINERY AND EQUIPMENT	105200	144200	249400
4	OTHER FIXED ASSETS	2500	2500	5000
5	OTHER EXPENSES (Erection Installation, Security Deposit, etc)	7500	7500	15000
	TOTAL :	164,200	220,200	384,400

Ref: Islam Bank Bangladesh Limited

Annexure-C

Investment required to Set-up Textile Units to fulfill the demand of 100% Knit Fabrics & 40% of Woven Fabrics for Export Market and 85% Fabrics for Domestic Market:

Investment required to fulfill the demand of –

	Requirement	Expected supply from existing mills	Capacity to be setup	Number of units required	Investment required (In million Taka)
For Export Market:					
i) 100% of knit fabrics	1,803 million meters	936 million meters	867 million meters	112	18,480.00
ii) 40% of woven fabrics	484 million meters	336 million meters	148 million meters	19	14,250.00
iii) Spinning mills to support the knitting and weaving units	For Knit- 400 million kg For Woven - 69 million kg Total: 469 million kg	256 million kg	213 million kg	40	28,000.00
Sub-total:					60,730.00
For Domestic Market:					
i) 85% of fabrics	1,966 million meters	1,684 million meters	282 million meters	36	12,600.00
ii) 85% of yarn	246 million kg	176 million kg	70 million kg	13	3,250.00
Sub-total:					15,850.00
Total:					76,580.00

[Ref: Chapter VI & VII]

