

BACKWARD LINKAGE AND PRODUCTIVITY:
A study on export-oriented garment industry of Bangladesh

DOCTOR OF PHILOSOPHY

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বিশ্ববিদ্যালয়
গ্রন্থাগার

UTTAM KUMAR DATTA
Management Counsellor
Bangladesh Institute of Management
Faculty of Marketing Management Division.
4, Sobhanbag, Mirpur road, Dhaka- 1207
June- 2007

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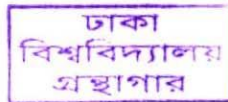
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Thesis Submitted to the University of Dhaka For the Degree
of Doctor of Philosophy in Marketing

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UTTAM KUMAR DATTA

Management Counsellor
Marketing Management Division.
Bangladesh Institute of Management
4, Sobhanbag, Mirpur road, Dhaka-1207
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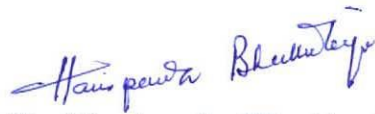


June – 2007

Certified that the work incorporated in the thesis entitled Backward-Linkage and Productivity: A study on export-oriented garment industry of Bangladesh was undertaken by Uttam Kumar data under our supervision.



Professor Dr. Belayet Hossain
Principal Supervisor,
Department of Marketing
University of Dhaka.



Professor Dr. Haripada Bhattacharjee
Co-Supervisor
Department of Marketing
University of Dhaka.

Declaration

The work presented in this thesis is original and has not been submitted by me to any University or Institution for the award of any degree or diploma. The thesis entitled Backward-Linkage and Productivity: A study on export-oriented garment industry of Bangladesh, submitted by me for the award of the Degree of Doctor of Philosophy at the University of Dhaka is based upon my own word carried under the supervision of Professor Dr. Belayet Hossain, Department of Marketing and Professor Dr. Haripada Bhattacharjee, Department of Marketing University of Dhaka, and that neither of this thesis nor any part of it has been submitted for the award of any degree or diploma.



Uttam Kumar Datta

Management Counsellor

Preface:

At present, the export proportion or percentage of total export earnings of Bangladesh says that the export –oriented garment industry can help to economic develop of Bangladesh. This country may be industrialized country in near future on the basis of this sector. Already many linkages industries have established to back this industry. This industry made a great opportunity to set up related industry like backward and forward industries. In spite of this future possibilities the study on “backward linkage and productivity has not yet been studied to examine the strength of backward linkage industries and the relationship with productivity. So, I have studied on this subject. After the abolition of quota-restricted market from 1st January 2005, this industry entered into a new competitive era. To survive this industry, Bangladesh has to win competitiveness on the basis of low price; I think if it is possible, Bangladesh will able to create a market position in the long term.

On the other hand, a major portion of export earnings is spending to pay the import bill of raw materials in every year. So it is essential to establish a strong backward linkage industry to add value and reduce import costs. The attempt of this research study was to identify present position of backward-linkage industry and the scope of establishing a composite supply chain to improve production cost as the key to win competitive advantage. In my findings, I have seen only 30 percent woven fabrics can met the demand of woven sector. But, the knitting sector has already been established a strong backward linkage. This sector can afford around 90 percent knit fabrics domestically. In spite of phasing out the Quota restricted market system, knit garments export has been increased. The main problem in woven sector is discovered. Lack of proper plan and capital, Bangladesh has not yet been established a strong backward linkage industry in this sector. So that the government of Bangladesh is providing special facilities to encourage foreign investors to invest in this sector. It has been found through this research study, there is an opportunity to set up composite textile industry. The productivity of composite textile is greater than

isolated garment factories. A complete chain of spinning, weaving, dying, printing garments madding, packaging to gather mix improve productivity, reduce lead time, reduce price through reducing production cost. This research study started from the cotton production as the starting point of possible composite textile industry and world cotton production as the raw material of the spinning mills. Many research studies on this thrust sector have been directed.

But nobody try to find out the benefits of composite textile or a complete supply chain as the key to win competitive advantages. I think there is no alternative of complete supply chain or composite textile and clothing industry. It requires relocate the industry from residential area to a planned area in where the scope will be available to set up a composite factories. Cheap labor advantage will not remain forever recently, the workers movement for demanding higher wages a new threat on this industry. So, Bangladesh has to turn into new competitive advantages and this study will play an important role to strengthen the economy of Bangladesh on the basis of composite textile and clothing industry. The poverty striven Bangladesh will be able to establish its fame and prosperity in the global world on the basis of this potential industry.

UTTAM KUMAR DATTA

Management Counsellor

Marketing Management Division.

Bangladesh Institute of Management

4, Sobhanbag, Mirpur road, Dhaka-1207

Acknowledgement

Thanks a lot to my supervisors, Professor Dr. Belayet Hossion and Professor Dr. Haripada Battacharjee, Department of Marketing, University of Dhaka who helped me to select the research title and supervise my work timely through their given suggestions. I am grateful to them for their co-operation and valuable guidance. It has been possible to prepare this dissertation by their proper directions.

I am also grateful to the chairman and the participating teachers in my two Seminars for their guidelines and advices. Thanks to Mr. Reaz, Managing Director, Reaz garments Ltd. who is the first entrepreneur in garment industry of Bangladesh. He gave an interview about the starting point of this largest industry in Bangladesh. Thanks to the chairman of Bangladesh Textile Mills Association for his provides information. I am also grateful to the high officials of Bangladesh Garment Manufacturers & Exporter Association. Thanks to the assistant secretary and the librarian of Bangladesh Export Promotion Bureau. They provide me all export related necessary information. I am thankful to the chairman of Bangladesh Corrugated Carton and Accessories Manufacturers and Exporters Association who provided information about the packaging and accessories supplying capacity as the backward linkage. I am grateful to the librarian of International labor organization, Dhaka, Bangladesh. In this connection.

I want to deeply remember my Ex- Boss Mr. Aftafuddin khan, Principle, Nazirppur Shahid Zia College, Nazirpur Pirozpur and my colleagues of that college in where, I was an Assistant Professor. I am grateful to him because, he encouraged me to be higher educated and allow my one year study leave for M. Phil research. I never forget his contribution in my life. I am equally grateful to the officials of Bangladesh knit Manufacturers and Exporters Association. I want to show respect to all people, who directly or indirectly have provided related research materials and I extent my sincere thanks to my Director General of Bangladesh Institute of Management and all directors and colleagues. I also extent my thanks to the sample respondents who have given their answer to my questions in spite their losing valuable times.

Uttam Kumar Datta

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Source: Observation

Abbreviations

ATC	=	Agreement of textile and clothing.
ASIAN	=	Association of South East Asian Nations.
ADB	=	Asian Development Bank
ADP	=	Annual Development Plan
BKMEA	=	Bangladesh Knit wear Manufacturers and Exporters Association
BCIC	=	Bangladesh Chemical Industries Corporation.
BGFCL	=	Bangladesh Gas Fields Company Limited
BIDS	=	Bangladesh Institute of Development studies
BOI	=	Board of Investment
BPDP	=	Bangladesh Power Development Board
BR	=	Bangladesh Railway
BTRC	=	Bangladesh Telecom Regulatory Commission
BTTB	=	Bangladesh telegraph and telephone Board
BGMEA	=	Bangladesh Garments Manufacturing and Export Association
BTMA	=	Bangladesh Textile Manufacturing Association.
BATEXPO	=	Bangladesh Textile Exposition
BSCIC	=	Bangladesh Small and Cottage Industries
BEPZA	=	Bangladesh Export Processing Zones Authorities.
BIT	=	Bilateral Investment Treaties
BB	=	Bangladesh Band
BDT	=	Bangladeshi taka
BCCAMEA	=	Bangladesh Corrugated Carton and Accessories Manufacturers and Exporters Association.
BIFT	=	Bangladesh Institute of Fashion and Technology.
CM	=	Cutting and Making charge.
C&F	=	Cost and Freight
CEPZ	=	Chittagong Export Processing Zone
CIF	=	Cost Insurance and Freight
CP	=	Clearance Permit
CPA	=	Chittagong Port Authority.
DEPZ	=	Dhaka Export Processing Zone

DESA	=	Dhaka Electricity Supply Authority
DSE	=	Dhaka Stock Exchange
DTA	=	Domestic Tariff Area
DA	=	Dearness allowance
DC	=	Development Countries
DTT	=	Double Taxes
ECAs	=	Export Credit Agencies
EPZ	=	Export Processing Zone
FOB	=	Free on Board
FMS	=	Flexible Manufacturing Systems
FTI	=	Foreign Direct Investment
EPB	=	Export Promotion Bureau
GDP	=	Gross Domestic Production
GIS	=	Geographical Information System
GOB	=	Government of Bangladesh
GSP	=	Generalized System of preferences
HRD	=	Human Resource Development
ICC	=	International Chamber of Commerce
IDA	=	International Development Agency
IFC	=	International Finance Corporation.
ILO	=	International Labor Organization.
IMF	=	International Monetary Fund
IIFC	=	Infrastructure Investment Facilitation Center
IDCOL	=	Infrastructure Development Company Limited
ISS	=	Industrial Sector Agency
JIT	=	Just in Time
KW	=	Kilo Watt
LCMI	=	Kurt Salmon Associates Icepack
LC	=	License of Credit
LDC	=	Least Development Countries
MFA	=	Multi- Fabrics Arrangement
NBR	=	Non-Resident Bangladeshi
NAFTA	=	North American Free Trade Agreement
PTS	=	Primary Textile Sector

RCA	=	Revealed Comparative Advantage
RMG	=	Ready-Made Garments
SME	=	Small and Medium Enterprises
SOE	=	State-Owned Enterprise
SEDF	=	Small Enterprise Development Fund
SAARC	=	South Asian Regional Co-operation.
TA	=	Transportation Allowance
TPM	=	Total Productivity
TQM	=	Total Quality Management
UP	=	Utilization Permit
WTO	=	World Trade Organization

Chapter- One (Introduction)

- **Introduction**
- **Objectives of the study**
- **Research Methodology**
- **Limitation of the Study**

Chapter- One

Introduction:

The ready –made Garment Industry of Bangladesh has been established without any proper plan by the government or entrepreneurs of Bangladesh. Reaz Garments is the first garments exporter in Bangladesh. Once upon a time Mr. Reaz was simply a cutting master in a domestic market oriented mini garment factory in the old city of Dhaka. Very often he used to go to Pakistan for business purpose. He met with a buyer and approached his interest to export some shirts. After coming back to Bangladesh, he exported some shirts through that buyer of Holland.(An interview with Mr Reaz, M D Reaz Garments Ltd.) His success encouraged other entrepreneurs to invest in garment industry. By that time, many foreign investors came to Bangladesh to invest in this sector to take cheap labor and quota free facilities. As a result, this industry is becoming in a large shape till now. There is no question that Bangladesh has shown better performance in tapping its comparative advantages and exporting labor intensive garments over the last twenty years and there was no faster growing garment exporting countries like Bangladesh among the top two dozen major exporters between 1980-1990,even since 1990, no major Asian exporting countries of garments has exhibited higher growth rates than Bangladesh. (BAT Expo-1990, BGMEA). But now, it is an important question for Bangladesh, how can this industry maintain its higher growth rates and international competitiveness, what will happen in the future under WTO provision. This question needs to be answered. It refers to examine the strength and weakness of this industry and future possibilities.

The phenomenal growth of the ready –made garment (RMG) has been one of the most notable achievements of Bangladesh. In the mid-1980s, the country's export was about US\$ 1 billion. Now this figure is 8,654.52 million US\$ in the fiscal year of 2004-2005. The real exports grew 12.8 percent per annum as against of the corresponding GDJP growth of 4.8 percent between 1990 and 2004. Behind this performance, export-oriented garment industry has played significant role. In 1985 the garment exports were only 10 percent of total exports of Bangladesh. But this amount has increased to 6,417.67 million US\$ and it is the 74.15 percent of total country's exports. (BAT Expo-2005 BGMEA) Exports oriented garment industry is the largest

industry in Bangladesh at present. Very often, people say that this industry is the replacement of abolished Jute Industry. It is the leading sector of Bangladesh in terms of employments, production and foreign exchange earnings. About 2 million people, 80% of which are women, employed in the garment- manufacturing sector. This industry enjoyed a meteoric rise from 30 enterprises in 1980 to 4107 in 2005.

Before 1st January 2005, this industry enjoyed quota facilities in EU and USA markets. (Two major importers) There was no competition because, Bangladesh had a granted quotas. But now under the provision of WTO, this industry is facing a steep competition in the global market especially with the Asian competitors like, China, India, Pakistan, Sri-Lanka and Thailand. Bangladesh now imports raw materials from these competitive countries to meet the demand of its textile and clothing sector. These countries did not increase their exporting capacity due to quota restriction. So they exported raw fabrics to solve their surplus production capacity. Now these countries are increasing their exports, so they are utilizing their locally produced raw materials internally. This changing situation due to WTO agreement on textile and clothing (ATC) is raising importing cost of raw materials for Bangladesh. As a result, the rise of price may have negative impacts on the exports. On the other hand, the nearest competitive countries have strong backward-linkage industry than Bangladesh. So, they can able to produce garments at a lower cost through maintaining quality products in spite of their higher labor cost. Low production cost is the main comparative advantage. Strong backward industries help to reduce long lead-time, increase productivity, added value and reduce price because of available raw materials at a lower cost domestically. So, there is a relationship between backward linkage industries and productivity.

At present, Bangladesh is importing raw materials (cotton, yarn, fabrics, accessories) from country abroad through back-to-back L/C. It requires extra inbound logistic cost (loading cost, unloading cost, labor cost, shipping cost, other transport cost, warehouse cost etc) This extra costs reduce capital productivity, labor productivity, material productivity. Other expenses productivity than the nearest competitors of Bangladesh. Reduced total productivity is increasing prices of Bangladeshi garments. As a result, Bangladesh is gradually losing its competitiveness. In this context, a

complete supply chain is very essential to win international competitiveness, and balance economy.

International competitiveness is the key to survival in the post- MFA world. It is also important to bring about positive qualitative changes in the environment of production and working conditions to increase productivity. Labor-intensive comparative advantage in the international market is losing by higher productivity of competitors. Bangladesh should more emphasize on complete supply chain and composite textile and clothing industry. It helps Bangladesh to increase productivity for a competitive position to face international market competition.

Textile and clothing or garment industry based on mainly cotton fiber. So, to establish a complete supply chain of garment industry Bangladesh should also emphasizes on cotton production. Cotton is a farm product. Its production depends on natural climate or land. The suitable land of cotton production is 2.50-lace hectare in Bangladesh, (Cotton Development Board of Bangladesh) but only 50 thousand hectare land has come under cotton cultivation. This land is 20% of total suitable land. Cotton is the raw materials of spinning mills. It is possible to maximize cotton production land and per hectare production, for the raw material of textile industry. If it is possible, the fabrics' production cost will be reduced. The low price of fabrics and cheap labor together with help Bangladesh a competitive position in the international market

Bangladesh encounters a constant trade deficit in the international market. The export earnings of garment industry is expending to afford its imports bills. The rapid growth of garment industry and increasing backward linkage industries can maximize the export earnings by reducing import cost. A composite textile and clothing industry can close the gap between the exports and imports and reduce trade deficit. Agriculture is the backbone of the economy of Bangladesh. After liberation already 35 years passed. But still now, the country is dependable on foreign aid, loan, and grants etc .It is disgraceful for the nation. The industrial base of the economy is very weak. Export-oriented garment industry is a great achievement after liberation. This industry has made an opportunity to establish verities type of industries to support the main industry like spinning industry, weaving industry, dyeing industry, printing industry, accessories industry washing industry, packaging industry etc. All these industries are called backward linkage industries. Through establishing these

industries, Bangladesh may be industrialized country in near future. On the other hand, to achieve a satisfactory balance between the export earnings and import costs, it is essential to establish export-oriented industry. On the above discussion, it is very urgent to identify the opportunities and scope of establishing backward linkage industry to boost the garment industry for the survival of the people of Bangladesh. It is also examine how strong backward linkage industry can improve productivity to create a competitive position in the international market for long run.

Objectives of the Study

The principle objectives of this study are:

- To examine the total productivity of export-oriented garment industry of Bangladesh.
- To evaluate the present position of the export-oriented garment industry in Bangladesh
- To examine the strength of Backward Linkage Industries and productivity of ready-made garment industry.
- To find out the relationship between backward linkage industry and productivity.
- To identify the scope of increasing productivity for international competitiveness.
- To outline tentative suggestions that may be helpful for policy makers and exporters of ready made garments.
- To examine the future possibilities of cotton production to strengthen the backward linkage industry in Bangladesh.

Methodology of the study

The study has been utilized both primary and secondary data in order to achieve the above mentioned objectives.

Source of Secondary Data

To achieve the objectives of this study, secondary data has been collected from related organizational publications.

Primary Data Collection Process:

- **Research field:** Textile and clothing industry of Bangladesh and their backward- linkage industry.
- **Sampling Technique:** To collect reliable and valid data, I have selected the sample size 30 export-oriented garment factories and 10 composite textile mills by using justified technique (Non random technique) from Dhaka and semi urban area. Two factories have been chosen for observation from Dhaka.
- **The Process of Collection Data:**

I have collected data through observation and survey from justified sample size. For my research project, I have used personal interview method by using questionnaire through post mail with return envelope. To reduce time and monetary cost, it has been used this method. In some cases, data has been also collected over telephone. The observed data of vertex wear Ltd Mirpur-1, Dhaka has been collected about the per hour labor productivity in a production line. Vortex Wear Ltd was chosen as they supplied all required information about my topic of investigation.

The questionnaire was both structured and unstructured. It was very easy and simple in relation with the research objectives that the respondents can answer easily. The answer has been collected without any biasness. I have helped the confused respondents over telephone for better understanding questions in the questionnaire.

Data Analysis

Collected data has been classified on the basis of qualitative and quantitative variables by using frequency distribution. Then different statistical tools have been used to analysis the data, like table, graph, pie chart, average, percentage etc.

Scope of the Study

The area of the study on backward linkage industry and productivity is a vast area. Producing cost reduction depends on strong support of backward-linkage industries. It increases productivity and adds value. To establish a complete supply chain is very difficult because there are many variables involved. The exporters or manufacturers do not control the affected variables. The macro economic condition and political activities are related with backward linkage industry and productivity.

Organization of the Study:

The study consisted of seven chapters. Following from the introductory chapter, chapter two is related to theoretical analysis. Chapter three analyzed the trends and performance of the garment industry after the expiry of MFA (Multi- Fabrics Agreement) quota. Chapter four is contented the strength of Backward linkage of export- oriented garment industry of Bangladesh. Chapter five is the present position of exports oriented garments productivity and relationship between the backward linkage industry and productivity to win international competitiveness. Chapter six is the opinions of the sample respondents and chapter seven is the tentative suggestions for policy makers and manufacturers.

Limitations of the Study

Reliable and valid data are essential to conduct a fruitful research work. Collecting data to prove a hypothesis needs to proper plan about data collection methods and fieldwork process. I have done so, but it is very easy to make a plan but difficult to implement. It means limitations, as will as there were some limitations in my research project. My research hypothesis was to find out the scope of establishing strong backward linkage industries to increase productivity to reduce price to win the comparative advantage in the international market. In this contest, the limitations are given below:

- Difficult to applying appropriate sampling technique because of verities product producing factories.
- The sample respondents did not want to inform income related information due to income tax threat.
- High involvement of fieldwork.
- Small sample size
- Response rate is not significant
- Using mail method of collecting data, I could not help the sample respondents to response correctly.

Chapter – Two

Theoretical Underpinning

- **Concept of Backward linkage**
- **Concept and Theory of productivity**
- **Investment opportunities in Bangladesh to Strengthen the Backward-linkage of Garment Industry.**
- **Items of Import by Export- oriented Industries.**

Concept of Backward-linkage Industries:

Every industry maintains a supply chain. The supply chain starts from the collecting raw materials sources and ends at making availability of goods and services to its target markets. This supply chain may be divided into two parts, one is inbound logistics and another is outbound logistics. In general sense, all inbound logistics related products and services producing industries are called backward linkage industries of a specific industry. The productivity, production cost, value addition quality and lead-time are seriously affected by the position of backward linkage industries to regarding industrial products or services. On the other hand, all outbound supply related products or services producing industries are called forward linkage industry. As stated by Scott:

“Supporters of unbalanced growth believe that a few key industries should be established that have backward and forward linkages so that their establishment in a market economy will provide an incentive for entrepreneurs to create related industries, in unbalanced growth only a few industries are developed. This can be accomplished by either the government or by private industry, which may or may not, be aided by the government---linkage refer to the economic connection between a firm's operations and other sectors of the economy, It is called a forward linkage.

(-Scott 1985)

When a firm's output is used as an input by another firm; so, by providing necessary inputs, its existence creates an opportunity for entrepreneurs to create firms in 'downstream' industries. The reverse can also take place---Imagine cotton farms back in the mid nineteenth century that lie already side a river. Downstream from the farm is a cotton mill. Further down the river is large port city. The creation of the cotton firms because good, bottom land was available could have provided the incentive that induced someone to build the cotton mill downstream from them, 'this is a forward linkage.

On the other hand, the creation of the mill because falling water was available where it was built might have provided the incentives necessary to get some people to clear the bottom land and plant cotton upstream from the mill. This is a backwards linkage. The building of the cotton mill might have provided the incentive for someone to

build, wharves and warehouses in the port city so that they could acquire its output and ship it abroad. This is a forward linkage.

Strong foreign demand for cotton and the building of wharves and warehouses in the port city might have provided the incentive for some one to build the mill upstream from the port city. This is a backward linkage----Supporters of unbalanced growth point out that a country doesn't have to be able to provide all the inputs needed for an industry as some balanced growth theories seem to assume, because some can be imported. They question, too, how LDCs, who save relatively little can finance "big push"(balanced growth) with outside capital that for most of the post-war-. Period the abhorred because they viewed substantial dc investment as a new form of colonialism. Some LDC leaders oppose DC investment because they view it as a way to "piggy-back" western culture into their nation.

Concept and Theory of Productivity:

In generally, productivity may be defined as the relationship between outputs and inputs. In turn, the ratio of outputs to inputs. The outputs means the production of goods and services, on the other hand inputs means labor, capital and other industrial goods and services involved in a production process. When the ration of outputs to inputs becomes larger than the productivity is increased. Inputs can be measured by

- The number of personnel needed to do the job.
- The number of pieces of equipment required to do the job
- The cost of personnel.
- The total cost for all inputs, which can include labor, equipment, space, utilities, supplies, and maintenance.

The productivity describes how much input resources are required for production of certain amount of out put or specially out put per unit of input. It means efficient use and effective utilization of different factor inputs. Productivity can be expressed as a ratio i.e.

Q

P= ----- Where, Q= outputs, N= measures of input, P= Productivity.

N

For an example, a garment factory has produced 5000 shirts by employing 50 operators at 8 hours per day for 25 days monthly. Here,

$$\text{Productivity} = \frac{5000 \text{ units (shirts)}}{50 \text{ operators} \times 8 \text{ hours} \times 25 \text{ days}} = \frac{5000}{10,000} = .5 \text{ shirt/ man-hour.}$$

Efficiency, Effectiveness and Productivity:

Efficiency is the ratio of actual output attained to expected standard output. If the actual output of a production line is 100 pieces shirts per hour when the standard production per hour 120 pieces, the efficiency of a production line or regarding operator is to of a production line or regarding operators is to be $100 \text{ pcs}/120 \text{ pcs} = .83$ or 83.33 percent.

On the other hand, effectiveness is the degree of accomplishment of objectives, How well asset o result is accompl9dhed reflects the effectiveness, whereas how well the resources are utilized to accomplish the results refers to the efficiency, productivity is a both efficiency and effectiveness.

$$\text{Productivity Index} = \frac{\text{Output obtained}}{\text{Input expended}}$$

$$= \frac{\text{Performance achieved}}{\text{Resource consumed}} = \frac{\text{Effectiveness}}{\text{Efficiency}}$$

Measurement of Productivity:

- I. To monitor performance
- II. To reveal problem area
- III. To appraise how well resources are utilized
- IV. To improve productivity situation.

Measurement of productivity depends upon two factors

- 1) Output indicators
- 2) Input indicators.

Output Indicators

Output is production of goods and services by employing input resources.

Type of Output: a) Physical measure = Physical quantity, Type of physical product

b) Value measure = Quantity x Price.

Type of Value measure:

- a) Profit = sale – expenditure
- b) Cross value of production
- c) Cross output: Includes
 - Sale – change in stock;
 - Value of by-product;
 - Income from service or other sources.
- d) Value added: Gross output – Industrial and non-industrial cost.
 - Item of industrial cost: Cost of raw material used, fuel, power, and electricity.
 - Item of non-industrial Cost: Printing and stationary, postage, telegraph and telephone, water charges, advertising and selling expenses including commission, banding charges, insurance, consultancy service, accounting and auditing, small repair and maintenance and T.A, D.A, etc.

Input Indicators

Input is resource or goods and service used as a means of production.

Type of input:

	Physical	Value
Land	Acre of land	Value per acre, rent per acre;
Labor	No. Of person No, man –hour}	Wages per worker Wages per man hour
Capital	Fixed asset by type by number	Value of fixed asset;
Raw material	Quantity of material	Value of quantity.
Energy	K/ W Electricity	Value of electricity per K/W.

Type of Productivity:

Productivity= Output/Input. This is a general definition of productivity, depending on type of output and type of input productivity may be classified as

- a) Factor productivity
- b) Partial productivity
- c) Total factor productivity
- d) Total productivity

A hypothetical example of all these kinds of productivity are furnished therefore 'x' company with the following data for a given period

<u>Data</u>		<u>Taka</u>
Output	=	1000
Labor	=	300
Material	=	200
Capital	=	300
Energy	=	100
Other Expenses	=	50

a) Factor Productivity:

$$\text{Labor Productivity} = \frac{\text{Output}}{\text{Labor}} = \frac{1000}{300} = 3.33 \text{ TK}$$

b) Partial Productivity:

$$\text{i) Labor Productivity} = \frac{\text{Output}}{\text{Labor}} = \frac{1000}{300} = 3.33 \text{ TK}$$

$$\text{ii) Labor Productivity} = \frac{\text{Output}}{\text{Material}} = \frac{1000}{200} = 5.00 \text{ TK}$$

$$\text{iii) Energy Productivity} = \frac{\text{Output}}{\text{Energy}} = \frac{1000}{100} = 10.00 \text{ TK}$$

$$\text{iv) Other Productivity} = \frac{\text{Output}}{\text{Other Expenses}} = \frac{1000}{50} = 20.00 \text{ TK}$$

c) Total factor Productivity:

$$\begin{aligned} &= \frac{\text{Net Output}}{\text{Labor} + \text{Capital}} \\ &= \frac{\text{Total Output} - \text{Material} + \text{Services purchased}}{\text{Labor} + \text{Capital}} \\ &= \frac{1000 - (200 + 300 + 100 + 50)}{300 + 300} = \frac{350}{600} = 0.583 \end{aligned}$$

Total Productivity:

$$= \frac{\text{Total Output}}{\text{Labor} + \text{Capital} + \text{Material} + \text{Energy} + \text{Other}}$$

$$= \frac{1000}{(300+200+300+100+50)} = \frac{1000}{950} = 1.053$$

How to Increase Productivity:

Either to the following ways can increase productivity:

- Same output form less input
- More output form same input
- More output from less input
- Much more output form a little more input

How to improve productivity

- Management commitment
- Developing productivity measure for all operating involved in the system
- Looking at the system as whole in deciding which operations are critical
- Developing methods for improving productivity
- Establishing reasonable goals for improvement
- Measuring improvement and publicize them

Productivity through innovation

The most typical causes for innovation that shift competitive advantages are the following:

- Technological changes can create new possibilities for the design of a product, the way it is marketed, produced, or delivered, and the ancillary services provided. Productivity is greatly affected by technological changes and it is impossible for an industry with old technology.
- New or shifting buyer needs.
- Emergence of a new industry segment.
- Shifting input costs or availability, and
- Changes in government regulations.

Productivity through diversification and synergy

- a) Diversification consists of broadening the company's product mix to include products differing significantly from its original or basic product lines.

- b) In sales and distribution, synergy is most likely to be significant where products are both related and sold through the same outlet.
- c) The most clear –cut form of synergy is economics of scale in production.
- d) Finding uses for by-products is another important form of synergy, such as using slag from steel plants for road making or bran from flour for health foods. There are two types of diversification.
 - Related products
 - Unrelated products

Productivity through Quality

As quality is increased, costs decrease. This sets in motion a chain reaction. Better quality leads to lower costs and higher productivity. The company's customers get the best of all worlds, better quality and lower prices. This allows it to capture markets and increase market share, there are four ways to improve the quality of products and services.

- a) Innovation in products and services.
- b) Innovation in the processes that create products and services.
- c) Improvement of existing processes.
- d) Improvement of existing processes.
- e) Productivity through total quality management.

Productivity through total productive maintenance

Total productive maintenance (TPM) is an innovative approach to maintenance that optimizes equipment effectiveness, eliminates breakdowns, promotes total employee involvement, and manages human factors meticulously. TPM goes for beyond the philosophy and practices of preventive maintenance and condition monitoring; it integrates reliability, maintainability, and material technology aspects. It is an important part of the strategy concerned with changing the fundamental beliefs, values, and culture of a company harnessing the enthusiasm and participation of everyone to achieve an overall idea of "Zero breakdown" and life cycle management, TPM is essential from the standpoint of achieving higher productivity, prolonging the life of equipment, and getting the best service of equipment. Service includes quality; cost, delivery, safety pollution prevention and worker morale.

Productivity through Flexibility

It includes the flexible manufacturing systems (FMS) the reduction of lead-time in production, the development of new processes for new products, the reduction of set – up times, and giving workers a broader range of tasks.

Productivity through just – in –time systems

The benefits of JIT are:

- a) Reduced inventory
- b) Reduction in space requirements better housekeeping
- c) Better housekeeping
- d) Improved customer service
- e) Greater employee involvement
- f) Greater productivity; and
- g) Higher quality level.

Productivity through 5s

(Seiri, seiton, sciso, seiketsu, shitsuke) is a systematic approach to good housekeeping. It is gaining support in most industries in Japan today.

The benefits of practicing 5s

- Happier employees with high morale
- Greater people involvement
- Low employee turnover
- Increased number of suggestions
- Better use of floor space
- Low machine breakdown rates
- Low accident rates
- High yield of materials; and
- High product quality.

Productivity through benchmarking

To provide a focus on the overall performance of key aspects of the business, it is desirable to set “benchmark” or, in particular, “competitor benchmarks”. The aim is to

focus staff attention not just on their own past performance records, but also on performance against their competitors.

Productivity through HRD approach basically envisages:

- Continuous training and development for all, especially attitudinal and multi skilled training.
- Performance planning and objective appraisal
- Emergence of self- managing groups with less supervision.
- Flexible attitude toward work and enriched jobs
- Constructive discipline preceding punitive disciplines.
- Meaningful participation of workers and managers
- Creation of a will to work.
- Creation of “we feeling” by putting collective values above personal considerations.
- A culture through dialogue, not through directed.

Role of Government in Productivity Promotion

- The government has a very positive role to play in terms of creating the conditions necessary for encouraging productivity growth and promotion.
- This would include a congenial climate for productivity through reforms in fiscal and monetary policy, lessening physical control, and developing other economic measures for creating competitive conditions
- Government must formulate and announce long-term industrial policy including exit policy,
- The important role of government is to provide the necessary infrastructure and to create opportunities for growth.

Investment Opportunities in Bangladesh for Strengthening the Backward- Linkage Industries:

Investment climate:

Bangladesh offers an unparalleled conducive investment climate compared to the other south Asian economics.

- Bangladesh is a largely homogenous society with no major internal or external tensions and a population with great resilience in the face of adversity.
- Bangladesh is a liberal democracy and mostly a one race and one religion country. The population of this country irrespective of race and religion has been living in total harmony and understanding for thousands of years.
- It enjoys broad non-partisan political support for market- oriented free form and offers the most investor friendly regulatory regime in South Asia.
- Bangladesh owns a trainable, enthusiastic, hardworking and low cost (even by regional standards) labor force suitable for any labor –intensive industry.
- Geographical location of the country is ideal for global trades with very convenient access to international sea and air route; Bangladesh is the bridge between ASEAN and SAARC nations.
- Bangladesh is endowed with abundant supply of natural gas, water and very fertile soil.
- Although Bengali is the official language, English is widely spoken as second language, majority of even moderately educated population can read, write and speak in English.
- As a result of low per capita GDP of only US\$ 389, present domestic consumption is not significant. However, it may be considered that there exists a middle class with significant purchasing power. As economic growth picks up, the purchasing power will also grow substantially. And in a country of more than 33.4 million people, even a small middle class may constitute a significant market.
- Bangladeshi products other than armaments enjoy complete duty and quota free access to EU, Japan, Canada, Australia, Norway and most of the developed countries. However, for apparel export to USA, Bangladesh is

enjoying duty and quota free access from the 1st January 2005. It is a new opportunity to expand its export quantity.

Regulatory and Legal Framework:

Investment in Bangladesh is well protected by law and by practices. Major laws related to foreign investment are:

- The Foreign Private Investment (Promotion and Protection) Act of 1980
- The Bangladesh Export Processing Zones Authority Act of 1980.
- The Investment Board Act of 1989
- The companies Act 1994
- The Bangladesh Private Export Processing Zone Act of 1996
- The Industrial Policy 1990
- The Import policy order 2003-2006

In addition, foreign investors are also required to follow the regulations of the Bangladesh Bank- Central Bank of the country and the National Board of Revenue for taxation and customer's matters.

Bilateral Investment Agreements:

The foreign Private Investment (Promotion and Protection) Act 1980 includes a guarantee of fair and equitable treatment to foreign private investment. Such national treatment is also provided in bilateral Investment treaties BITs for the promotion and protection of foreign investment, which was concluded with 24 countries listed below: Austria, Belgium, Canada, China, France, Germany (Indonesia, Iran, Italy, Japan, Korea, DPR Korea, Republic Malaysia, Pakistan, Poland, Romania, Switzerland, The Netherlands, The Philippines, Turkey, Thailand, U K, USA, Uzbekistan.

Negotiations on concluding BITs have also been going on with other 17 countries i.e. India. Hungary, Oman, Moldova, Egypt, Mauritius, Russia, Ukraine, Australia, Romania, Byelorussia, Bahrain, Spain, Finland, Nigeria, Saudi Arabia and Vietnam.

Separate bilateral agreements for avoidance of double taxation (DTTs) were also signed with 20 countries as listed below: Belgium, Canada, China, Denmark, France, Germany India, Italy, Japan, Malaysia, Pakistan, Poland Romania, Singapore, Republic of Korea, Sri Lanka Sweden Thailand The Netherlands U.K

In addition, Bangladesh is a signatory to multilateral investment Guarantee Agency, Overseas Private Investment Corporation of USA, International Center for Settlement of Investment Disputes and a member of World Intellectual Property Organization

permanent committee on development cooperation related to industrial property. Bangladesh ensures adequate protection for intellectual property rights, such as patents, designs & trademarks and copyright.

Credit Rating of Bangladesh:

Bangladesh doesn't have any sovereign credit rating till date. However, the creditworthiness of Bangladesh is regularly quantified on monthly basis by the various export Credit rating agencies. These ECAs are members of the Berne union; Detail activity profiles are available at Berne Union.

Infrastructure Readiness:

Utilities:

Utilities provisions for industrial undertaking include gas, electricity, water waste management, sewerage etc. in Bangladesh are as below: In EPZs, all kind of utility facilities and supports are pre installed and ready for utilization. There is no disruption in power, gas and water; Industrial waste management and sewerage system do sufficiently ensure a conducive environment.

- BSCIC Industrial Estates provide utilities including plot allotment.
- Other industrial areas are also being brought under the uninterrupted and sufficient coverage of utility services.
- BOI Utility Services Cell provides one window service to the investors. Foreign investors could avail their utility services through BOI utility Service Cell. Senior officials from the respective utility service offices of the Government provide counseling, accept applications and facilitate full services within the stipulated period.

Transportation: Since the mid 80s construction of road network all over the country has been massively undertaken. Today, almost all parts of the nation are networked with road connection. Roads are well supported by sufficient numbers of bridges and culverts. The longest bridge of the country Jamuna Multi-purpose Bridge, 11 the largest Road Bridge in the world, has connected the east and west both by road and rail network.

Well-developed navigable waterways in the country also provide transportation facilities even to the low remote areas. Both passengers and domestic right are carried over at cheaper cost.

15 International Airlines directly connect regular international flights from world business destinations of South, East and South East Asia, Middle East and Europe to Bangladesh.

Besides, Bangladesh Airlines, the national airways of the country, is also networked to 26 international and 7 domestic destinations. Private sector airways are connecting too domestic destinations. While one of them is also operating in international route. Private Helicopter Services is also available to reach any place of the country. Between two international seaports Chittagong and Mongla, Chittagong is the gateway of both the exports and imports serving about 80% of all international sea freights, Chittagong port is also well connected to domestic road, rail and air routes, The government is concerned to enhance the efficiency of the ports and invites private sector participation in port management and establishment. Most of the international shipping and freight forwarding companies/agents are present in the country providing transportation services to the investors.

Communication:

In August 2002 Government has declared to permit VOIP and open up the telecom sector (fixed line) to the private sector participation.

Government has already given license private sector fixed line operations Such market- oriented move of telecom sector would enhance the telecommunication service of the country to a desired level.

62 Internet Service providers are in the Internal market. Divisional Cities and major industrial areas have been brought under Internet servicing. With about 9,859 domestic postal stations including 164 Guaranteed Express Post providing stations and Express Mail Service agreement with 49 countries, postal service in Bangladesh has been serving the nation. International courier service companies like DHL, Fed Ex, UPS etc, are also present to serve the investors.

Facilitation & Promotion

The private sector investment in accelerating industrial development of Bangladesh were significantly identified and outlined by the visionary leadership and put into the policy framework of the Govt. in early 1980s. Formal legislative move was made

through enactment of Foreign Private Investment (Promotion and Protection) Act, 1980 with the changing global economic scenario, the need for specialized institutions in promoting private investment. Both foreign and domestic, had emerged and, as a result, BOI was established in 1989. The Investment Board Act 1989. Following are the four investment promotion and facilitation bodies of the Government.

Investment Promotion & Facilitation Agencies

Agency	Areas of Concern
a) Bangladesh small & Cottage Industries Corporations (BSCIC)	Small and cottage industries
b) Bangladesh Export Processing Zones	Industries Located in EPZs
c) Privatization commission	Privatization of SOEs.
Board of Investment (BOI)	All other industries including Promotion of the above.

To facilitate and promote private sector infrastructure, two other GOB companies –Infrastructure Investment Facilitation Center (IIFC) and Infrastructure Development Company Limited (IDCOL) were also established.

Bangladesh Small & Cottage Industry Corporations. BSCIC was established by parliamentary legislation, which was amended in 1992 to match the Government. It provides comprehensive services to development and expansion of small and cottage industries (SCIs), The major functions of BSCIC include

- Promotion and registration of small and cottage industries.
- Conducting advisory and industrial promotion services including scouting and training of entrepreneurs. Skill development of artisans and craftsman and creation of job opportunities.
- Construction and development of industrial estates with necessary infrastructural facilities for the SCIs;
- Development of linkages between SCIs and other medium and large industries.

Development of small and medium enterprises (SMEs) has been encouraged by the Government with a view to create a cluster of reliable, quality and competitive supply source to the large foreign investments.

Bangladesh Export Processing Zones Authority (BEPZA)

Under the BEPZA Act 1980, it was a view to provide a congenial investment climate free from procedural complications. EPZs are export – oriented industrial enclaves that provide infrastructure facilities administrative and support services to the investors along with rewording incentives.

Major Incentives & Facilities provided by BEPZA

Fiscal Incentives—

- a) Tax holiday for 10 years
- b) Concessionary tax for 5 years after completing initial 10 years.
- c) Duty free import of machinery & raw materials
- d) Avoidance of double taxation based on DTTs.
- e) All other incentives as provided by BOI.

Non-Fiscal Incentives---

- a) 100% foreign equity allowed
- b) Unrestricted exit policy
- c) Full repatriation facilities of dividend and capital at the event of exit.
- d) Import of raw materials allowed on Documentary Acceptance basis.
- e) Intra and Inter-Zone export is allowed.
- f) Subcontracting within EPZs permitted.

Infrastructure & Facilities---

- a) Fully Serviced Plots
- b) Ready Factory Building
- c) All types of Utilities
- d) Warehouse and Secured Bonded Area
- e) Business Support Services
- f) Customers Clearance at plant Site
- g) Workers Dormitory Enclave
- h) Recreational Amenities

Investing In EPZ: Requirements

Requisites / Steps:

- a) Project Proposal Form
- b) Bank Solvency Certificate
- c) Memorandum of Association
- d) Articles of Association
- e) Certificate of Incorporation
- f) Joint Venture Agreement (B Type)
- g) Sanction Letter
- h) Lease Agreement
- i) Performa Invoice/ Quotation on Machineries.

Fees and Rental:

▪ Application Form	18 \$
▪ Registration Fee	250 \$
▪ 6 months Rental (land)	2000 \$
▪ 6 Months Rental (factory for 1500 m2)	2000\$

Privatization Commission:

After the independence of Bangladesh in 1971, as major industries like jute, textile, chemicals etc, were nationalized under a nationalization program. In 1993, Privatization Board (now privatization commission) was set up and entrusted with the overall responsibility of privatizing State-Owned Enterprises SOEs that have been identified by the government.

Since the establishment of Privatization Commission, so far 54 (fifty four) SOEs were privatized. Among them 37 SOEs were privatized by direct sale and the rest 17 through transfer of share, latest list of SOEs to be privatized could be obtained from privatization commission and also viewed at BOI web site www.boibd.org/privatization.html.

As the SPEs have an already infrastructure and facilities, investing by acquisition of these SOEs is a gainful option to the foreign investor.

National Taskforce for Investment. In a major development towards fostering an investment-friendly atmosphere in the country, the Government instituted a National Taskforce for Facilitating of Investment Climate on 8 October 2003.

All investment-related Agencies involved- The taskforce consists of 17 members representing the Ministries of Home, foreign Affairs, Finance, Industries planning, Post & Telecommunications, civil Aviation & Tourism, Bangladesh Band, Power Division Mineral Resources Division, Mineral Resources Division. National Board of Revenue, Chittagong Port Authority, Bangladesh standard & testing Institution. BOI executive chairman Mr. Mahmudur Rahaman has been made chairman of the taskforce while the office of BOI has been entrusted to act as the Secretariat of the taskforce. The taskforce will meet in very three months to review the prevailing investment situation. The taskforce shall put recommendations to the government for removal of any hurdles and suggest necessary suggestions to enable faster growth of foreign investment. The taskforce, along with FBCCI and representatives of foreign investors, will also conduct surveys on identifying effective strategies to attract foreign investment in the country.

Investment Incentives:

The government of Bangladesh has liberalized the industrial and investment policies in recent years by reducing bureaucratic control over private investment and opening up many areas. Substantial incentive program has also been implemented which is presented below:

Provided Incentives to the investors:

Approval Authorities

- Board of Investment
- Bangladesh Bank
- National Board of revenue
- Bangladesh Small & Cottage Industries Corporation.

Major Fiscal Incentives:

- Tax Holiday
- Accelerated Depreciation Allowance instead of tax holiday and Accelerated Depreciation Allowance.
- Concessionary duty on imported machinery
- Avoidance of Double Taxation.
- Remittance of royalty, technical know – how, technical assistance fee.

Major non Financial Incentives:

- 100% Foreign Equity allowed.
- Unrestricted Exit Policy.
- Full Repatriation Facilities of dividend and capital at the event of exit.
- Permit on investing US\$ 75,000 and citizenship offer for investing US\$ 5,00,000

Tax Holiday and Concessions:**Incentive:**

1. For existing Industry: Tax holiday facilities (THF) are available in the existing industry for or 7 years depending on the location of the industrial enterprise.

Location	Year
Dhaka and chittagong Divisions (Excluding 3 hill track districts of ctg Division)	5
Khulna, Sylhet, Barisal & Rajshahi Divisions and 3 hill track	7

Important to note:

- THF for Extension Unit is not allowed.
- THF will be available for the industrial undertaking formed as a separate company.
- THF availing companies are required to reinvest at least 40% of their exempted income.

Availing Procedure

1. Register project approval and certification from NBR.
2. Apply for tax holiday approval and certification from NBR issues tax holiday certificate within 90 days of submission of application.
3. NBR issues tax holiday certificate within 90 days of submission of application.

▪ Depreciation Allowance:

Incentive

Accelerated Depreciation Allowance: Only New industrial undertakings will enjoy accelerated depreciation allowance in lieu of tax holiday as per following schedule:
as per following schedule:

- @ 100% on the cost of machinery.
- For the first year only.
- In all locations of Bangladesh

Initial Depreciation Allowance has been reintroduced from the fy 2002-03 as per following schedule:

- On the Machinery: 25% of its costs.
- On the factory : 10% of its costs.

Restructuring of Depreciation Allowance to ensure better profitability of the industry as following

- General Building: 12%
- Factory Building: 24%
- Furniture : 10%
- Machinery : 18%
- Vehicle : 20%

(Not paying for hire)

Availing Procedure

- By setting up and operating business in Bangladesh
 1. Register your project approval and certification from NBR.
 4. Apply for tax holiday approval and certification from NBR issues tax holiday certificate within 90 days of submission of application.
 5. NBR issues tax holiday certificate within 90 days of submission of application.
- Depreciation Allowance:

Incentive

Accelerated Depreciation Allowance: Only New industrial undertakings will enjoy accelerated depreciation allowance in lieu of tax holiday as per following schedule:
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- Machinery : 18%
- Vehicle : 20%

(Not paying for hire)

Availing Procedure

- By setting up and operating business in Bangladesh

Duty Exemptions and Concessions on Machinery's:**Insensitive**

For 100% export oriented industry, no import duty is charged in case of capital machinery.

- For other industry, import duty, at the rate of 7.5% ad valorem is payable on capital machinery and spares imported of initial installation or BMR/ BMRE of the existing industries.
- The value of spare parts should not however exceed 10% of the total C&F value of the machinery.
- Value Added Tax (VAT) is not payable for imported capital machinery and spares
- Import duty @ 7.5 is secured in the form of returned after installed of the machinery.

Availing Procedure

- Register the project with BOI.
- Apply for Import Registration Certificate (Industrial IRC) or Import permit (IP) at BOI;
- BOI sends recommendation to CCI & E for issuance of IRC and IP within 7 days from the date of application.
- Apply for import duty exemption certificate at BOI.
- BOI issues certificate within 7 days from the date of application.

Avoidance of Double Taxation:**Incentive**

- For foreign investors, double taxation can be avoided on the basis of bilateral double taxation Avoidance treaties DTTs

- Exemption of income tax up to w years for the expatriate employees in industries specified in the relevant schedule of Income Tax ordinance.

Availing Procedure

- Register the project with BOI.
- Apply for tax avoidance approval at NBR
- NBR arranges tax avoidance facilities.

Remittance:

Incentive:

- For foreign investors, remittance of royalty technical know how, technical assistance fee. How to Avail:
- Register your project with BOI.
- Apply for remittance of royalty, technical know how, technical existence fee approval from BOI.
- BOI gives remittance approval

Repatriation:

Incentive

- For foreign investors, full repatriation of invested capital, profit and dividend is allowed.

Availing Procedure

- Resister the project with BOI.
- Apply for repatriation approval from Bangladesh Band (BB) through nominated band.
- Bangladesh Band gives repatriation approval.

Incentive:

- Foreign investors can wind up on investment either through a decision of the AGM or EGM

Availing Procedure:

- Decide wind up in company AGM or EGM
- Complete the formalities to exit the country.
- Apply for repatriation approval for sales proceeds from Bangladesh Bank (BB)
- Bangladesh Bank gives repatriation approval within a specified period.

Ownership:

- Foreign investors can set up ventures either wholly owned or in joint collaboration with local partner.

How to Avail:

- Incorporate a company
- Register with BOI.

Incentives to Non-Resident Bangladeshis (NRBs)

In acknowledgement of the enormous contribution of NRBs to the economy, the Government has established Ministry of Expatriate welfare and overseas employment in early 2002 to look after the interests job the NRBs.

Incentive:

- Investments of NRBs are treated at par with FDI and enjoy facilities.
- NRBs can buy newly issued shares/ debentures of Bangladesh companies.
- A quota of 10% has been fixed for NRBs in primary public shares.
- They can maintain foreign currency deposits in the Non resident foreign currency deposit (INRB) is selected

How to Avail:

- Content BOI and Ministry of Expatriate welfare and overseas Employment.
- Resister with BOI.

Other Incentives:

- Tax exemption on royalties, technical know-how fees received by any foreign collaborator, firm, company and expert.
- Tax exemption on the interest on foreign loans under certain conditions.
- Exemption of income tax up to 3 years for the foreign technicians employed in industries specified in the relevant schedule of income tax ordinance.
- Tex exemption on income of the private sector power generation company for 15 year from the date of commercial production.
- Multiple entry visa facilities for the prospective new investors.
- Re- investment of repatriatable divided treated as new investors.
- Citizenship by investing a minimum of US\$ 5,00,000 or by transferring US\$ 10,00,000 to my recognized financial institution (non- repatriatable).
- Permanent resident ship by investing a minimum of US\$ 75,000 (non repatriatable)

- Tax exemption on capital gains from the transfer of shares of public limited companies listed with a stock exchange.

There is no discrimination in case of duties and taxes for the same type of industries set up by foreign and local investors and private sectors.

Incentives to Export – Oriented and Export- Linkage Industries

Export-oriented industrialization is one of the major objectives of the Industrial Policy 1999. Export-oriented industries are given priority and public policy supports are answered in this respect. An industry exporting of least 80% of its manufactured goods or an industry contributing at least 80% of its products as an input to finishing at least 80% of services including information technology related products are considered as an export- oriented industry. To make investment in 100% export-oriented industries attractive, the following incentives and facilities will be provided:

- a) Duty free import of capital machinery and spare parts up to 10% of the Value of such capital machinery.
- b) Bonded Warehouse and back-to-back letter of credit facility.
- c) Duty drawback facility.
- d) Providing loans up to 90% of the value against irrevocable and confirmed letter of credit/ Sales Agreement.
- e) Supporting backward linkage “deemed exporters”.
- f) The export-oriented industries further to the provisions of Bangladesh Bank foreign exchange regulations, are entitled to receive additional foreign exchange, on case to case basis, for publicity campaign, opening overseas offices and participating in international trade fairs.
- g) The entire export earning from handicrafts and cottage industries are exempted from income tax rebate on export earning are given.
- h) The facility for importing raw materials included in the banned/-restricted list, but required in the manufacture of exportable commodities.

- i) The import of specified quantities of duty free samples for manufacturing exportable products is allowed consistent with the prevailing relevant government policy.
- j) The local products supplied to local industries or projected against foreign exchange L / C are treated as indirect exports and are entitled to all export facilities.
- k) The export credit guarantee scheme facility.
- l) 10% products of the enterprises, located in both public and private EPZs are allowed to be exported to domestic tariff area against foreign currency L/ C on payment of applicable duties and taxes.
- m) The Export-Oriented industries, which are identified by the government as “Thrust Sector”, are provided special facilities and venture capital support.

In this context, RMG and textile sectors have enormous investment opportunities. Government provides highly favorable policy framework for investment in these sectors, Investors has the following choices.

- 1.Establishment of new textile RMG mill in the private sector.
- 2.Joint ventures with the existing textile/ RMG mill.
- 3.Acquisition of public sector textile mills that are being privatized.
- 4.Indirect investment through financial services and/or leasing.

Items of Import by Export- Oriented Industries:

Recognized readymade garment industries operating under the bonded warehouse system shall be permitted to import raw and packing materials (including banned & restricted items) as determined by customs authority in accordance with the policy formulated by the national board of revenue on the basis of confirmed and irrevocable letter of credit for export of readymade garments against back to back letter of credit. They will have to import fabrics excepting gray fabrics, in regular and continuous length of 18.29 meter or above in “thaan” or standard pieces or size. These industrial units shall not be allowed to import cloth in pieces or cloth cut into pieces. Staple pins shall also not be importable against back-to-back L/C. For import of tray fabrics the provisions at Para 14.82 of this order shall apply. Duplex board of four hundred gm (gray back) shall be importable under back-to-back L/c through entry in the pass Book. Duplex board of lesser thickness (determined by EPB) for use as collar and back board may be imported against back to back L/C through entry in the pass book. Import of raw and packing materials against back-to-back L/C by such units may also be made through submission of LCA forms duly filled in, to the concerned nominated Bank. Under this arrangement, such units will not be required to obtain IP/CP from the concerned Import Control Authority for clearance of their raw and packing materials imported against back-to-back L/C. Such units under readymade garments industry shall, however, be permitted to import raw materials on No Cost Bases for execution of export orders of the following conditions.

- Pre-shipment inspection certificate regarding finished products, if required, will have to be produced at buyer's expense during execution of export and no rejection of readymade garments made for export will be allowed;
- The entire value added amount in respect of ready-made garments shall be repatriated to Bangladesh. The lowest percentage of value addition shall be under
 - o Value addition from knit garments shall not be less than twenty percent;
 - o Value addition for non-quota category woven garments shall not be less than twenty percent;

- o Value addition for quota category woven garments up to US\$ 40(FOB) per dozen shall not be less than twenty percent.
- o Value addition for all types of sweater shall be less than twenty: and
- o Value addition for all types of baby garments shall not be less than fifteen percent.
- o Quantity, Price, and description of the materials imported on consignment basis must be mentioned in the invoice.

Raw and packing materials

Gray fabrics and white fabrics imported against back to back L/C by the export oriented ready made garments units operation under bonded warehouse system shall not be transferable for dyeing and printing through inter-bond transfer. The export oriented readymade garment units operation under bonded warehouse system shall be allowed to import knitted fabrics in roll or than form only.

- The rate of local value addition for other export items and establishment of back-to-back L/C shall be up to the maximum percentage notified by Export promotion Bureau.
- Recognized units under specialized textile industry operation under the bonded warehouse system shall be permitted to import raw & packing materials (Including banned/ restricted items) as determined by customs authority on the basis of confirmed and irrevocable letter of credit for export of the items of specialized textile against back-to-back L/C. For this purpose no prior permission from the chief controller shall be required.
- Recognized export oriented hosiery industry under bonded warehouse system will be allowed to import raw and packing materials (including banned & restricted items) to an amount fixed by the customs authority against back-to-back L/C by establishing confirmed and irrevocable letter of credit. For this, prior permission from the chief controller will not be necessary. But recognized Garment Industries will be allowed to import yarn and knitted fabrics in than or roll form for production of hosiery and knitted garments.

But import of fabrics in out pieces and import of knitted fabrics other than in than, of roll form will not be allowed. Recognized Garments industries in sweater sector will not be allowed to import sweater jumper, pullover, full over, hard dock and such in form of piece, panel or roll of in “thaaan” or in the form of cut pieces. Only import all yarn of all sorts will be allowed. Recognized Garments industries in sweater sector will not be allowed to import sweater, Jamper, pullover, maflar, hard sock and such in form of piece, panel or roll or in thaana or in the form of cut pieces. Only import all yarn of all sorts will be allowed as raw material these items.

- All other export-oriented industries export-oriented readymade garment/ hosiery and specialized textile industries may be allowed to import any banned or restricted raw and packing materials and spares required for the execution of specialized textile industries may be allowed to import any banned or restricted raw and packing materials and spares required for the execution of specific export order with prior permission from the chief controller on the basis of recommendation of the sponsoring authority. In such instance the concerned industrial units shall submit bank guarantee covering hundred percent of the value of the banned or restricted item(s) imported, However, such bank guarantee shall not be required in case of export-oriented industries operating under bonded warehouse license.
- Recognized manufacturing and exporting units in all other sectors operating under the bonded warehouse system may import their raw and packing materials under back to back L/C arrangement. This provision shall cover both the output manufacturing (direct exporters) as well as the input-manufacturing (indirect exporters) units.
- In case of industries which supply raw materials to export oriented industries i.e. deemed exporters, raw materials can be imported against back to back L / C through bonded warehouse.
- Only 100% export oriented industries unit under bonded warehouse system will be allowed to import necessary raw materials & packing materials for 4

(four) months in revolving system against back to back L / C against master export L/C or against confirmed contract by the buyer. In this case the concerned bank will consider value of export of the previous year of performance certificate as the basis for fixing the need. In the case new factories the need for four months will be fixed on the basis of production capacity determined by the Board of Investment for import against back-to – back L/C by this industries authorization of Bangladesh. Bank will not be necessary. Raw materials will be imported without L / C and against contract on the basis of Bank customer relationship through sight or the license L/C under prevailing rules.

- The restriction of 18.29 meter shall not be applicable in case of embroidered fabrics, badges, labels, stickers & patches imported for the execution of specific export order by readymade garment industry.
- It shall not be considered as the violation of Import Policy if any buyer/supplier makes shipment of raw and packing materials before establishment of back to back L/ C for export oriented readymade garments industry textile industry, provided the Bangladeshi Importer furnishes information regarding back to back L/C for export oriented readymade garments industry/ textile industry, provided the Bangladeshi Importer furnishes information regarding back to back L/C is established before the ship carrying the goods, reaches the outer anchorage .
- Subject to the obtain ability of bonded warehouse license, opening of L/C a prior permission from the customs Authority shall be required for release of imported goods.
- 100% export oriented finished diamond manufacturing industrial units operating under supervised bonded warehouses system will be allowed to import uncut diamond on consignment basis without opening L/C and making payment of its value. Processing of such uncut diamond will be deemed to entail loss of contents not exceeding 70%. The concerned exporters will be allowed to export finished diamond only after realization of the money

covering total amount of the value added to the exportable finished diamond, Subject to the rate of value addition being not below US\$ 13.75 per caret. Exports in this sector will have to be carried out as per procedure prescribed by Bangladesh Bank and the Customers Authority.

- In case of import of raw- materials for 100% export-oriented industries operating under bonded warehouse system & manufacturing corrugated carton thread, ploy bag, butterfly labels interlining, lather, lather goods, foot ware etc. the previous process, i.e. import through SEM procedure under bonded warehouse, will also remain valid along with the existing back to back S.C facilities.
- Export-Oriented industries who are deemed exporters will be given utilization permit (UP) against back-to-back L/C subject to the following conditions:
- In the cases where payment for certain and accessories is not possible after payment through L/C subject to the following conditions:
- In the cases where payment for certain and accessories is not possible after payment through L/C adjustment for payment of certain and accessories will be made if there is surplus in any other L/C opened for raw and packaging materials. Such adjustment for payment against raw and packaging materials will be made through adjustment in seven such cases.
- Various relevant information of the cases in which surplus money is adjusted against back-to-back L / C, such as relevant back to back L/C number 1 reference, date, name and address of the L/C opener, description of the commodities, quantities and other relevant information's should be clearly quoted in the UP.
- Back-to-back L/C for supplied accessories will in no way be left unadjusted for more than six months.

- Adjustment for inland back-to-back L/C should be made within six months.
- It will be applicable irrespective all value for all consignment.
- Readymade garment will have to obtain prior 100% foreign investment will have to obtain prior. Permission from ministry of commerce before establishing L/C for machinery.
- Gray Fabrics:
- Grey fabrics- only the recognized textile finishing mechanized units operating under the bonded warehouse system shall import "gray Fabrics against back-to-back L/C on the following condition:

All the imported Grey Fabrics after finishing, dyeing or printing shall be supplied to export-oriented readymade garments units or be exported the foreign countries. Where the imported gray fabric after finishing. Dyeing or printing are directly exported to foreign countries, the concerned importer will be required to finish, dye or print at least an equal quantity of local gray fabrics, and supply the same to the export oriented readymade garment units or directly export the same to the foreign countries during the same financial year. However if the imported grey fabrics after finishing, dyeing or printing are supplied to the export oriented ready-made garment units, the condition of processing an equal quantity of local grey fabrics shall not apply. The export Promotion bureau shall properly monitor about the compliance of the above conditions by the importers of gray fabrics.

- o In addition to the above, the export oriented readymade garment industries operating under bonded warehouse system may import gray fabric only for pocketing and interlining up to quantity recommended or determined by utilization 'Export committee constituted by the Ministry of commerce or the relevant customer SRO. Grey fabrics so imported shall be endorsed in the customs passbook of the concerned readymade garment units. On export of readymade garments made by using imported grey fabrics, the same shall be endorsed in the pass book as per existing procedure for the purpose of adjustment showing that the entire quantity of imported gray fabrics has been fully utilized in the garments exported.

- o Grey fabrics shall be importable under usual procedures for using in export oriented industry and for direct export against a specific export order.
- o Subject to the condition of above 100% export oriented specialized textile (dyeing, printing & Finishing or dyeing, printing, finishing weaving, spinning) units only which have got required technical capability may import gray fabrics & yarn up to four months requirement (maximum 33% of production capacity) even without back to back L/C under supervised. Bonded warehouses system. In this case quantity of import against a factory will be determined on the basis of the certificate issued by the concerned bank on the export performance of the existing factory in the previous year,
- o 100% export-oriented specialized mill may import raw materials under supervised bonded warehouse up to twelve months requirement in revolving system without back-to-back L. C; In this case quantity of import will be determined on the basis of the certificate issued by the concerned bank on the export performance of the existing mill in the previous year.
- o 8.5 100% export-oriented specialized mill may import raw materials under supervised bonded warehouse up to twelve months requirement in revolving system without back-to-back L.C. In this case quantity of import will be determined on the basis of the certificate issued by the concerned bank on the export performance of the existing mill in the previous year.
- o Import of parts, accessories and components, parts, accessories or component, import of which is otherwise banned or restricted shall however, be importable along with machinery only as its integral and indispensable part provided the said machinery item permissible for import.
- o Second –hand/reconditioned machineries: Second hand reconditioned machineries used in industry shall be importable without any price limit. However, a certificate from an established internationally reputed survey or to the effect that each machine has at least 10 years economic life must be submitted along with Bill of Lading.

Chapter-Three

Present Position and trends of Export-Oriented Garment Industry of Bangladesh

- Introduction (present position)
- Export Position of Quota Free Period in 2005
- Main Apparel items Exported from Bangladesh
- Growth of main apparel items exports from Bangladesh.
- Country's Exported to in Jul'05-Jun'05
- Growth of BGMEA member units
- Major product exports from Bangladesh for Jul'o5-06
- Comparative Statement on Export on RMG and Total Export.
- Competitive Position of Eight Major Textile Players.
- Export of Apparel from Bangladesh to Major Market.
- Academic Program for technical support to enhance productivity of BGMEA institute of Fashion & Technology.
- Labor movement for higher wages in the Apparel sector.
- Old Salary Structure.
- New salary Structure.
- China and India emerging as two biggest global textile players after post FMA.
- U.S re-imposes import quotas on china after talks fail.
- Export growth of woven garments declining supply.

Introduction:

Up to 31 December 2004, Bangladesh Export-oriented Garment Industry enjoyed a granted quota in the international market especially USA and EU markets. There was no competition in the international market. But after phasing out Multi Fiber Arrangement (MFA), it is a prediction that this sector will be under a threat of losing the export orders from international market because of China and India entrance as major competitors in the global market. Many experts and researchers expected that this industry would be dissolved. But actual scenario after phasing out the MFA is inverse. At present, globalization is not a threat but it is an opportunity. Consequently, now Bangladesh with an opportunity to increase its export quantity in terms of lower production cost and better quality in quota free regime. So the Bangladesh garment exporters and the US buyers take a positive view of the industry's future in the post MFA era. The specter of China gobbling up the apparel market, leaving smaller countries like Bangladesh without orders is almost over, because China itself putting a break on its garment exports to stymie overheating and the US applying special clauses on certain categories to check unlimited Chinese imports.

It is predicted that many factories especially larger in Bangladesh shall grow even bigger either by merging with the smaller factories or taking them over or expanding their capacity. Buyers are consolidating their sourcing countries and at the same time are also consolidating the number of factories that they shall source from. It is apprehended that post MFA the big companies shall survive. On the other hand small factories like sub contracting factories therefore face an enormous challenge to improve their skill and be on the buyers list as a sourcing base. The large garment factories are consolidating their capacity and have even added up more space and machines, recruiting people because they see this year to boom especially in the knit sector where only in the last year 150 new sweater factories have been enlisted with the BGMEA. During the last year's investment in the sweater and yarn dyeing factories have been around tk 2,000 corers. The US buyers are also consolidating by narrowing their sourcing countries, keeping Bangladesh among the top 10 suppliers as they produce at the lowest price and follow good labor standards and have gained the reputation of dependable market. Tesco, H&M, Wal-Mart, JC Penney is in fact actually increasing their purchase this year from Bangladesh.

Big international buyers shall not rely too much on a single country like china; they want to seed greater security in diversity and Bangladesh, they think, is a proven manufacturer with good stitching skills. The signs are already there as Bangladesh increased its garments exports significantly in the first two years.

The number of garment factories increased from 3480 in 2000-01, to around 4,227 in 2005-06. The following displays the growth pattern of number of Ready Made Garment (RMG) units. In the post MFA regime the numbers of factories are increasing in the faster face. The growth rate of export earning in the woven sector comparing 2004—05 to 2005-06 is 13.50% and knit sector is 35.38%. In total, the sector gained overall 23.11% growth. The post MFA performances of RMG by the increase of exports and contributed higher rate to national GDP. The GDP in fiscal year 2005-06 was 10.12 % and in 2004-05, it was 9.5%. The contribution of RMG sector to GDP in earlier ten years was only 5% and 25% of value addition. But now the value addition is 64.67% and 45% of total industrial employment.

This performance has been possible as the buyers, who find East Asia too expensive on supply source, have been attracted by Bangladesh's relatively low cost of production and above all high product quality.

Export Position of Quota Free Period in 2005

United State of America and European Union are the major importers of Bangladeshi garments. During the quota free period in 2005, the export of woven garments to the USA market increased by 22% and earned 1,812 million US\$. On the other hand, knitwear exports to USA market at the same time increased by 65 % of value 496 million US\$. The export growth in both woven and knitwear to the US market in 2005 increased by 77%. The year wise total export earning of the sector is shown below:

Diagram no- 1: Year wise export earning

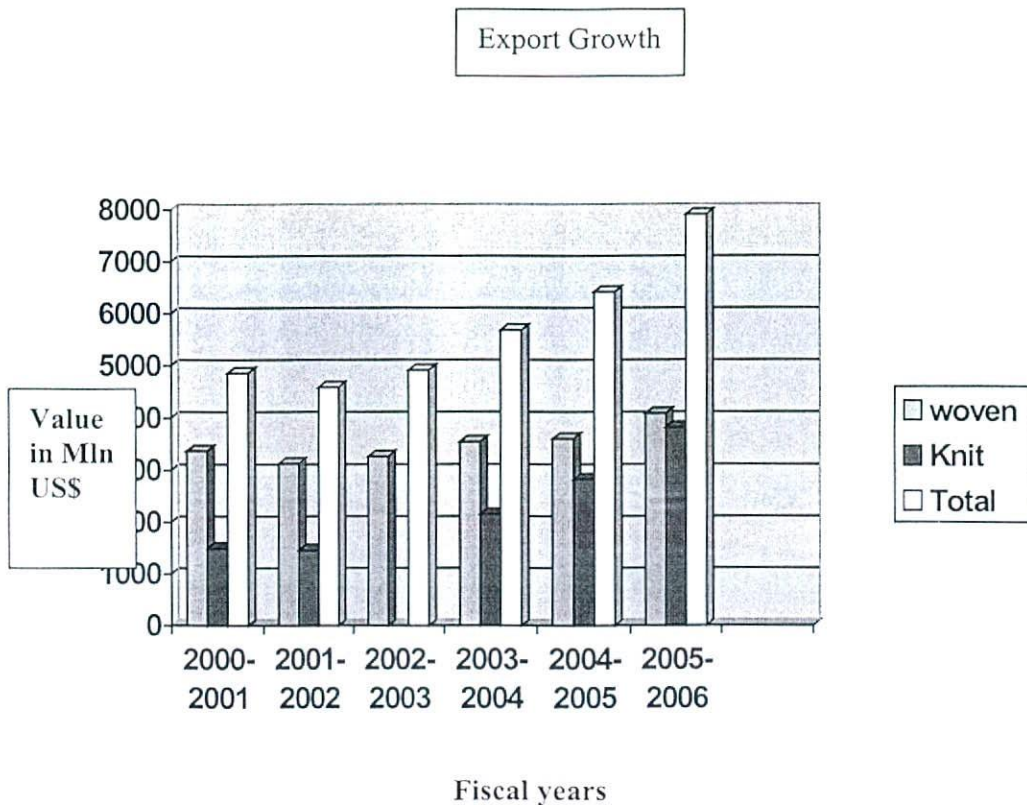


Table – 1: Year wise export earning

Year	Woven	Knit	Total
2000-2001	3364.32	1495.51	4859.83
2001-2002	3124.82	1458.93	4583.75
2002-2003	3258.27	1653.82	4912.09
2003-2004	3538.07	2148.02	5656.09
2004-2005	3598.20	2819.47	6417.67
2005-2006	4043.82	3816.98	7900.80

Present Position of Main Apparel Items Exports from Bangladesh

Verities type of garments are marketing from Bangladesh to international market. They are playsuits, shirts and blouses, skirts, trousers, nightwear, underwear, underwear, coats W& G, sweaters, shorts, gloves, jackets, blazers, athletic wear, babies garments, etc. Out of these items, shirts, trousers, jackets T-shirts, sweater, are

major exported items. The present position of main items export from Bangladesh is given below.

Table no – 2: Present Position of Main Apparel Items Exports from Bangladesh

(Value in Million US\$)

YEAR	SHIRT	TROUSERS	JACKETS	T-SHIRTS	SWEATER
1995-96	807.66	112.02	171.73	366.36	70.41
1996-97	759.57	230.38	309.21	391.21	196.60
1997-98	961.13	333.28	467.19	388.50	296.29
1998-99	1043.11	394.85	393.44	471.88	271.70
1999-2000	1021.17	484.06	439.77	563.58	325.27
2000-01	1073.59	656.33	573.74	597.42	476.87
2001-02	871.21	636.61	412.34	546.28	517.83
2002-03	1019.87	643.66	464.51	642.62	578.37
2003-04	1116.57	1334.85	364.77	1062.10	616.31
2004-05	1053.34	1667.72	430.28	1349.71	893.12
2005-06	1056.69	2165.25	389.52	1781.51	1044.01s

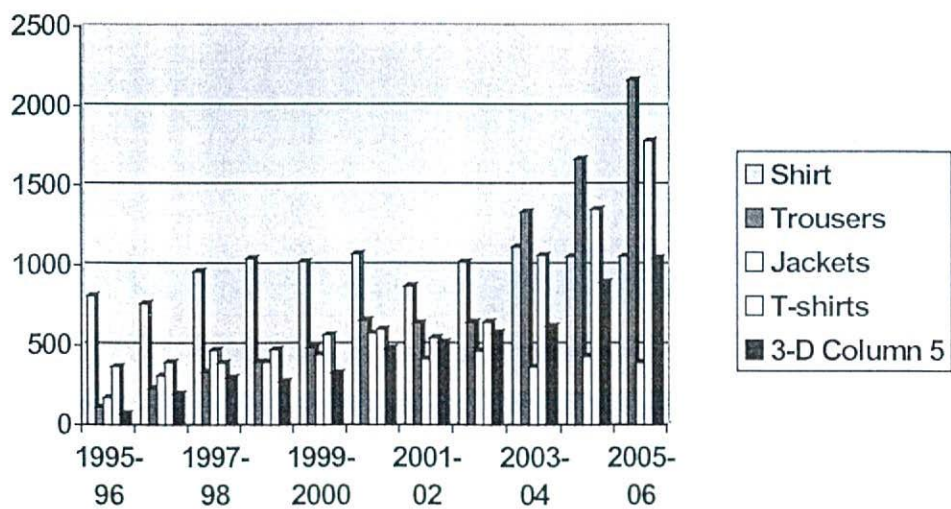


Diagram – 2: Present Position of Main Apparel Items Exports

Countries Exported to in Jul 04-Jun 05

At the early stage of Bangladesh Garment Industry, garments exported to only EU and USA markets. Gradually Bangladesh increased its markets into major developed countries like Canada, Japan, Australia and many other countries. Still now Bangladesh is trying to expand its markets to other developed and developing countries through promotional activities. The major markets for Bangladeshi garments into international market and market share of total market are given below.

Table-3 :Countries Exported to in Jul 04-Jun 05
(Value in million US\$)

Country	Export for Jul 04-Jun 05	%
European Union	3928.77	61.22
USA	2026.09	31.57
Canada	307.95	4.80
Other Countries	131.26	2.05
Japan	16.30	0.25
Australia	7.30	0.11
Grand Total	6417.67	100.00

Diagram – 3: Present Positions of Main Apparel Items Exports from Bangladesh

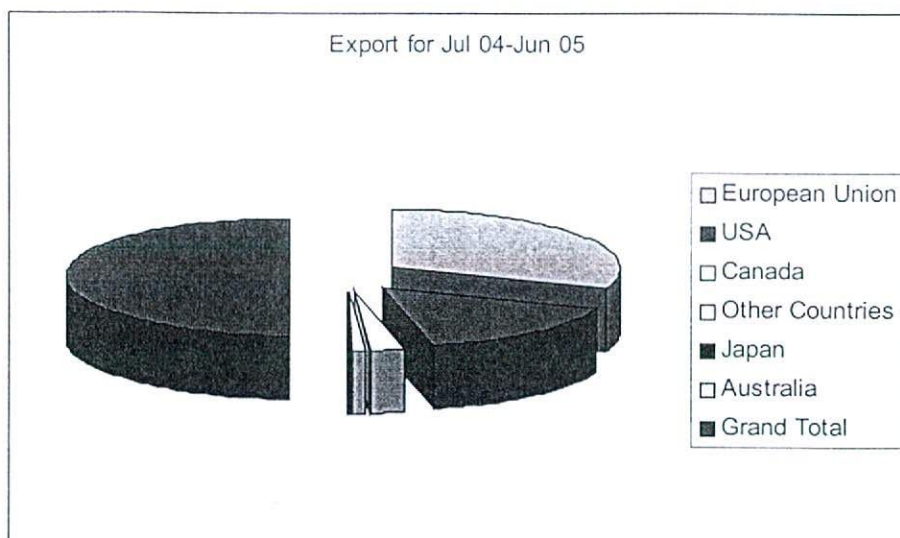
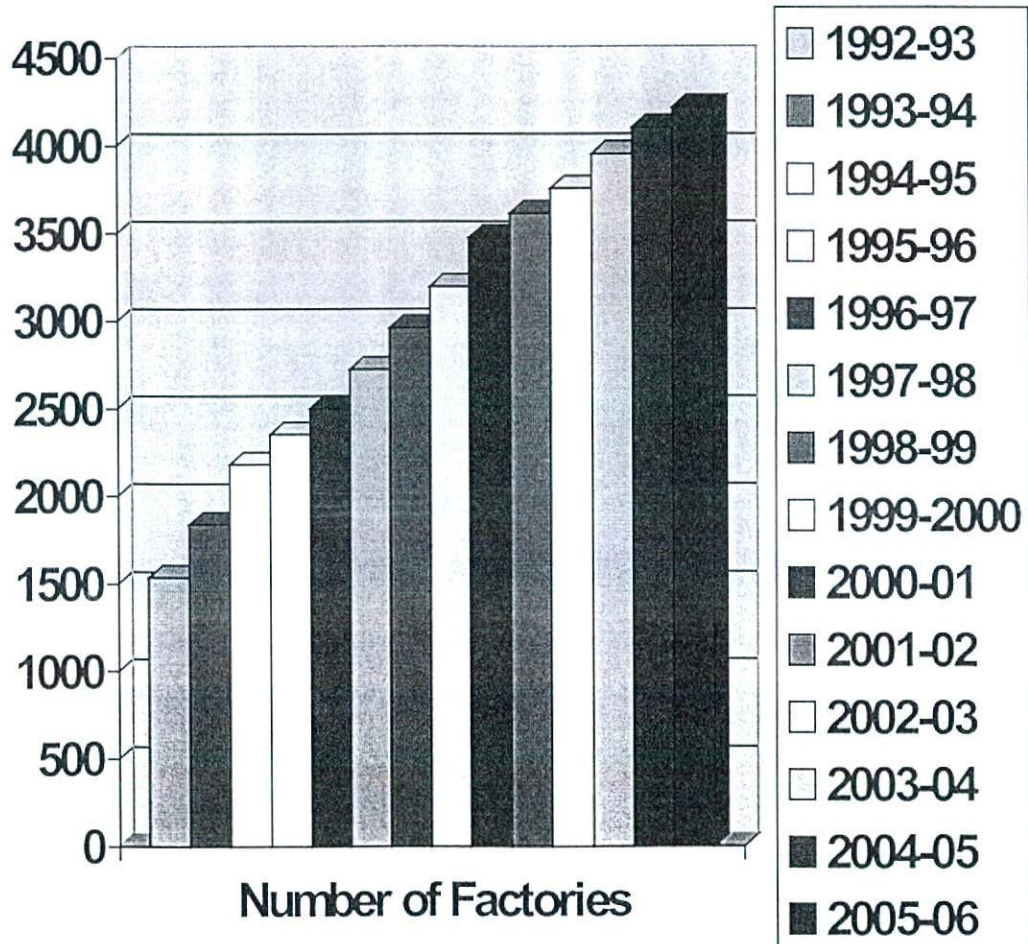


Table – 4: Growth of BGMEA member units

Year	Number of Factories
1992-93	1537
1993-94	1839
1994-95	2182
1995-96	2353
1996-97	2503
1997-98	2726
1998-99	2963
1999-2000	3200
2000-01	3480
2001-02	3618
2002-03	3760
2003-04	3957
2004-05	4107
2005-06	4220

**Diagram - 4 Growth of BGMEA member units**

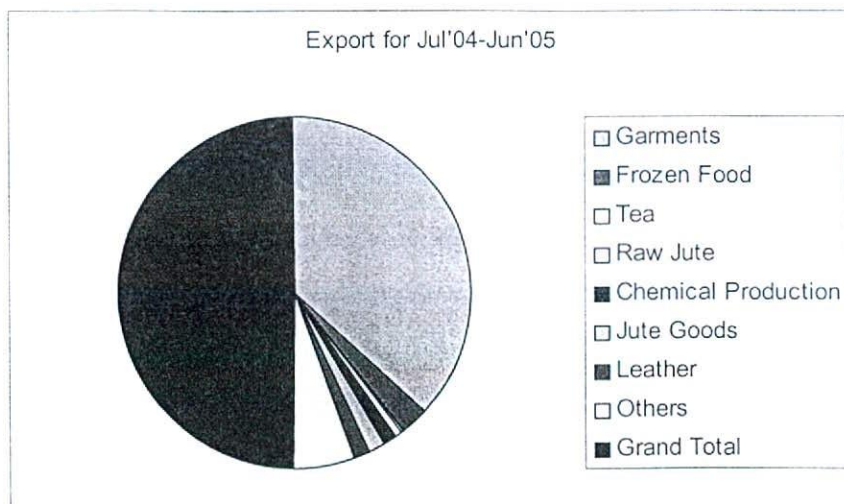
Major Product Exports From Bangladesh

The RMG industry is playing an important role on macroeconomic balances. The trade deficit has declined from around 10 percent of GDP in early –1980s to around 5.5 percent in 2004. The increasing share of export in the economy brightly contrasts the declining significance of foreign aid. The share of garments export in total export of Bangladesh is increasing which is shown in the table no-5

Table no-5: Major Product Exports from Bangladesh

Products	Export for Jul'04-Jun'05	%
Garments	6,417.67	74.15%
Frozen Food	420.78	4.86%
Tea	15.84	0.18%
Raw Jute	96.19	1.11%
Chemical Production	197.18	2.28%
Jute Goods	307.48	3.55%
Leather	220.93	2.55%
Others	978.45	11.31%
Grand Total	8654.52	100.00%

Chart no.- 1 Major Product Exports from Bangladesh



(Value in million US\$)

Table no-6: Comparative Statement on Export of RMG and Total Export.

Year	Export of RMG (MN US\$)	Total Export of Bangladesh	% Of RMG's
1983-84	31.57	811.00	3.89%%
1984-85	116.20	934.43	12.44%
1985-86	113.48	819.21	16.05%
1986-87	298.67	1076.61	27.74%
1987-88	433.92	1231.20	35.24%
1988-89	471.09	1291.56	36.47%
1989-90	626.16	1923.70	32.45%
1990-91	866.82	1717.55	50.47%
1991-92	1182.57	1993.90	59.31%
1992-93	1445.02	2382.89	60.64%
1993-94	1555.79	2533.90	60.40%
1994-95	2228.35	3472.56	64.17%
1995-96	2547.13	3882.42	65.16%
1996-97	3001.25	4418.28	67.93%
1997-98	3781.94	5161.20	73.28%
1998-99	4019.98	5312.86	75.67%
1999-2000	4349.41	5752.20	75.61%
2000-01	4859.83	6467.30	25.14%
2001-02	4583.75	5986.09	75.57%
2002-03	4912.09	6548.44	75.01%
2003-04	5686.09	7602.99	74.29%
2004-05	641.67	8654.52	74.15%
2005-06	7900.80	10526.16	75.6%

Competitive Position of Eight Major Textile Players.

The eight major countries, covering nearly 50 percent of global exports of apparel and 80 percent of Asian apparel exports, have many common problems including low-price image, environmental and social regulations, high electricity and fuel cost, dearth of trained manpower, infrastructure impediments and little exposure to high tech machinery. These countries are Pakistan, Bangladesh, India, China, Indonesia, Sri-Lanka, Thailand and Vietnam.

The study, named Global Apparel Industry and Major Asian Suppliers, has discussed weaknesses of each of the Asian countries dealing in apparel industry separately.

- **Pakistan:** Major weakness of Pakistan's apparel industry include low-price image, reliability, marketing, environmental and social regulation and inadequate infrastructure, including power, water and the road network not able to provide foundation for a dynamic industrial sector similarly, very expensive power, low grade technology leading to low productivity and poor quality, outdated machinery, lack of considerable up gradation of human resource skills and confusion in political religious and social situation including terrorism.
- **Bangladesh:** Low price image again emerges as a major weakness in Bangladesh. According to the writer interest rate for long-term in Bangladesh is very high, that is, 9-12%, as compared with 5-6 % of competitors. Similarly, no found for assistance to textile and apparel sector has been created and when it is coupled with the dearth of trained manpower of international standard and lower labor, the situation is translated into low productivity and inconsistency in quality. Then obsolete production technique, over dependence on imports, especially woven fabrics, environment and social regulations are few other weak areas in Bangladesh. Particularly, reliability and lead-time in Bangladesh is high as 90-120 days and machinery is mostly outdated unable to keep pace with technological development. Finally, weak marketing and selling techniques had made impossible for any company to develop a brand or have any new market emerged.

- ❑ **India:** In India again low price image is a major weakness like Pakistan and other Asian countries. Besides, buyer hardship and control, environmental and social regulations narrow export base in garment as over 50 percent is confined to four products, relatively low technology, hardly available traditional tailoring background and automation in decentralized garment sector, inconsistent and low quality and productivity and a higher power cost in India's power cost also hampering growth there, As per ITME- study 2003, power cost in India is \$0.08 per KW that is higher comparing with seven countries, including china, Brazil , Korea, Turkey and the USA. Than India's cotton yield is only 372 kgs per hectare as compared with the world average 900-1000 kgs per hectare. Low Labor productivity, pro-employed labor laws resulting in unproductive employees union in India, which are mainly externally and politically motivation.
- ❑ **China:** The quota restriction and safeguard measures from the US and the EU are described as major weakness of the apparel industry in china. Then wage rates in the apparel industry and the production costs. Land prices, training, social fees and shipping costs are rising social responsibility /accountability and labor issues, low price image, buyer hardship mass production/flexibility have been counted as some other major issues in china.
- ❑ **Thailand:** According to the report, most export products of Thailand are commodity types, which are subject to fierce competition and have lower prices. Then the lack of variety and quality products due to shortage of technical manpower and modern technology is resulting in loss of competitive advantage compared with lower cost countries, especially in labor wage rate, The wage rate in Thailand is \$1.24 per hour- higher than India, Indonesia, Sri Lanka, Vietnam, Bangladesh and Pakistan. Relying on imported raw materials, the domestic industry cannot supply material, especially quality and variety. High cost of production and difficult to get workers is another big issue there. There is a general lack of skilled people, particularly in the sewing industry. So productivity is not high and investments and industrial engineering are limited.

- ❑ **Sri-Lanka:** Continued civil war in the country significantly has suppressed the growth potential of the economy and adversely affected investor confidence. The apparel industry there heavily depends on imported raw materials; say 80% i.e. 150 million kgs of fabric are imported annually. The industry has not kept pace with the technological developments. The issue of longer lead times is also hampering growth there. The need to import fabrics result in longer lead times for the apparel industry. The average lead times for the apparel industry. The average lead-time, weeks or more and lower labor productivity are big weak areas of the industry. The fall is attributed to lower capacity utilization, high labor turnover, absenteeism and under-trained employees and most factories lacks design and product development. The domestic market there is relatively small with 19 million people and high electricity fuel costs besides weak supply chain management are main stumbling block there.
- ❑ **Indonesia:** In Indonesia, political instability and confusion in the political and social situation, including terrorism, are providing to be major hurdles facing the industry. The infrastructure needs improvement. The rising electricity and fuel costs increasing trend of minimum wages coupled with low-tech textile and clothing industries is another weak area of the industry. Depreciation in rupee has increased import costs and oil fuel prices. There is also an increase in the number of labor unions there.

Table – 7: Export of Apparel from Bangladesh to Major Market

Name of the Country	Woven			Knit			Total (Woven + Nit)		
	Fiscal year July-June in Million (US\$)		% at Export Increase & Decrease	Fiscal year July-June in Million (US\$)		% at Export Increase & Decrease	Fiscal year July-June in Million (US\$)		% at Export Increase & Decrease
	2004-05	2005-06		2004-05	2005-06		2004-05	2005-06	
EU countries									
Germany	620.55	696.74	12.28	668.82	993.49	48.54	1289.37	1690.23	31.09
U.K	357.88	355.02	-0.63	330.08	401.77	21.72	687.96	757.39	10.09
Italy	113.84	112.21	-1.43	184.93	225.33	21.85	298.77	337.54	12.98
France	211.99	204.31	-3.62	373.29	435.25	16.60	585.28	636.56	9.27
Belgium	67.53	71.75	6.25	132.54	141.20	6.53	200.07	212.95	6.44
Netherlands	117.49	110.66	-5.81	142.66	181.26	27.06	260.15	291.92	12.21
Total six E.U Countries	1489.28	1551.29	4.16	1832.32	2378.30	29.80	3321.6	3929.59	18.30
USA All countries	1623.41	2012.77	23.96	402.68	618.51	53.60	2026.09	2630.28	29.87
	3598.20	4083.82	13.50	2819.47	3816.98	35.38	6417.67	7900.80	23.11

Academic Program for Technical Support to Enhance Productivity of BGMEA Institute of Fashion & Technology.

BGMEA has established a institute named “ Institute of Fashion & technology (BIFT) to produce technically competent human resources for the RMG sector of the country. It started functioning in the year 2000, and affiliated to the National University, Bangladesh in 2001. Since its inception it is organized B. Sc. Hours course in Apparel Manufacture & technology and fashion Design & Technology (FDT). In addition to honors courses BIFT is organizing 1 year Diploma course in Apparel Merchandising. Apparel Manufacture & technology; Fashion Design & Technology and also six months certificate, and short courses relevant to the need of the RMG sector. The B.Sc. Honors course is governed by the rules and regulations of the National University. This Institute is situated in a prime location of tuatara Model Town of Dhaka Metropolitan city; having all communication network with all areas of Bangladesh.

The Aims and Objectives of BGMA Institute of Fashion and Technology.

The aim is to produce versatile and resourceful practitioners with scientific, technological and social Knowledge and equip them to overcome the challenge of the 21st century; the specific objectives are given below:

- o To develop BIFT as an International standard Institute of Fashion and clothing industry.
- o To enhance the strength of the Bangladesh RMG sector by provide technically skilled human resources.
- o To increase the efficiency productivity and product value of the industry through development of human resource. And research center as well as providing international standard education in fashion and technology.
- o To develop technically competent and socially aware work force through the provision of public lectures, research and consultancy linked to local, national and intonations issues.
- o To provide technical assistance in all aspects of garments manufacture to the local Apparel industries.
- o To keep close contact with students and employers to fulfill their intellectual and creative potential.
- o To provide opportunities for development and training of RMG sectors employees and staffs.
- o To provide information and data about source material, and up-to -date technology to the students, and RMG sector of Bangladesh.
- o To forge links with local and foreign Institutions to encourage of staffs and students, to increase awareness of good practice and to enhance the reputation of Bangladesh Garments sectors.

Labor Movement for Higher Wages in the Apparel Sector.

The garment industry of Bangladesh is cheap labor intensive. At the starting point of this industry, there was no cited labor movement till 2005, due to unemployment

economy. On the other hand a large number of workers are female who are basically housewives, they are working for extra income to help their husband or family. Consequently, they did not move for higher wages. In this connection, the anti-trade union minded owners did not permit the workers included trade union. United workers always worked under threatened of termination. The basic rights and welfare issues of garments workers were neglected.

For this communication gap between factory owners and management and ordinary workers were widened with mistrust. The repression of trade union activists by the owners at factory level makes such exploitation easier. The basic problem of the ordinary workers and labor movement in garments sector are low scope of operation, nonexistent freedom of legally registered unions at the factory level, long working hours and practically no weekly holiday that left hardly anytime for workers to participate union activities, no compliance of existing labor laws, high occupational accidents etc.

In spite of above situation, the labor union movement is relatively young but proactive in garment sector. There are approximately, 200 registered enterprise level union (Bangladesh Government labor Department) in garments sector with total 57,103 members. Different national and international bodies like ILO, ECFTU, SKOP centers made strong attention toward problems and demands of the garments workers. As an impact of this, a good number of enterprise level basic unions and industrial federations were formed and registered over the years with an aim to protect the rights and interests of workers in this sector. In fact, many of newly registered basic union at factory level were not sustainable, crushed or paralyzed due to non-recognition, illegal interference and unfair labor practices by the garments owners/management. Practically, the industrial federations are now playing key role in this sector. The present rate of participation in the trade union activities is around 3.8 percent and it is growing in spite of the negative attitude of owners and government's apathy to implement labor laws existing in Bangladesh at factory level.

Recently, the Bangladesh government, when implement its national pay – scale (Jul-2005 to 2006) the price level of stable goods have increased. But wages of garment workers did not increase. In this market condition, garment workers of different trade

unions demand minimum wage 3,000 BDT and a new salary scale. It is illustrated that minimum salary was only 950 BDT

Was fixed 12 years back. For a long time garment sramik karmichari Federation is demanding to re fix the minimum salary to balance with the rising living costs. But the owners did not respond to the demands of the workers despite repeated requests. Even they did not adjust the minimum salary with BDT devaluation against the US Dollar, he said.

At the eleventh hour, garment workers come out on the streets and active for minimum wage 3000 BDT. The activists demanding higher wages attacked some factories and add fire in Dhaka, Gazipur. Bangladesh Garment Sramik Karmachari Federation called strike. All factories were closed and turned in new crises. At last the government, owners and workers met to discuss the issue. Garment workers are at loggerheads over fixing a minimum wage for employees as the BGMEA is pursuing BDT 1,2300 a month while the workers are demanding BDT 3,000.

A six number board formed by the government held a series of meetings to re-fix the minimum wage for the workers and set again to settle the issue. The board recommended a new pay scale for the workers in 90 days.

The government and factory owners agreed to re-fix the wage structure for the garment workers following labor unrest. In the tripartite meeting, considering the owners post MFA position, they would like to re-fixed BDT 1230 scale for an unskilled worker to around 2000 BDT whereas minimum salary of BDT 3000 will make it nearly BDT 5000. The owners association argued that after post MFA, total wage cost for the workers accounts for roughly 48 to 55 percent of the workers and manufacturing (C.M) charge the owners are getting. In favor of owners association, Mr. Annisul Huq, cited an example. He said the factory owners received CM ranging between \$ 12 and \$14 for a dozen pants from us buyers last year, but they are now getting \$ 6 to \$7 for the same product. If the salaries in all grades are increased, total salary amount will be around 130 percent of the cm and not a single factory in the country will be able to survive after paying BDT 5,000 salary a month for5 an unskilled worker. On the other hand leaders of different trade unions said. They did

not agree with the minimum wage of BDT 1,230 proposed by the owners. The owners have to raise the minimum salary considering rising living costs.

On the other hand state minister for labor and Employment Aman Ullah Aman urged the RMG owners to implement in due time the tripartite agreement, signed on 2, June 2006 that envisages minimum wages for the garment workers. In this context country's apparel sector entrepreneurs have demanded of the government to fix the minimum wages for workers based on the financial capability of the individual factories. All the 4200 factories should be categorized as A, B and C based on their annual turnovers. Factories falling in A category will implement the highest minimum wages B category factories the second highest wages and C category the lowest minimum wages (Said BKMEA president Md Fazlul Hoque) But some organizations of the RMG workers, including Sramik Karmachari Oikya parisad (SKOP) have been demanding BDT 3000 as minimum wages. On the other hand owners said the minimum wages at BDT 3000 would not be viable for all industrial units. At last. Bargaining between owners and workers, wages re-fixed. The new wages structures are given below.

Table no- 8: Old Salary Structure 2004 (Monthly gross wages)

Serial	Grade	Wages	O. T
a)	Grade- 1	5300	3000
b)	Grade- 2	4000	2250
c)	Grade- 3	2700	1450
d)	Grade- 4	2100	1150
e)	Grade- 5	1750	1000
f)	Grade- 6	1700	900
g)	Grade- 7	1300	650

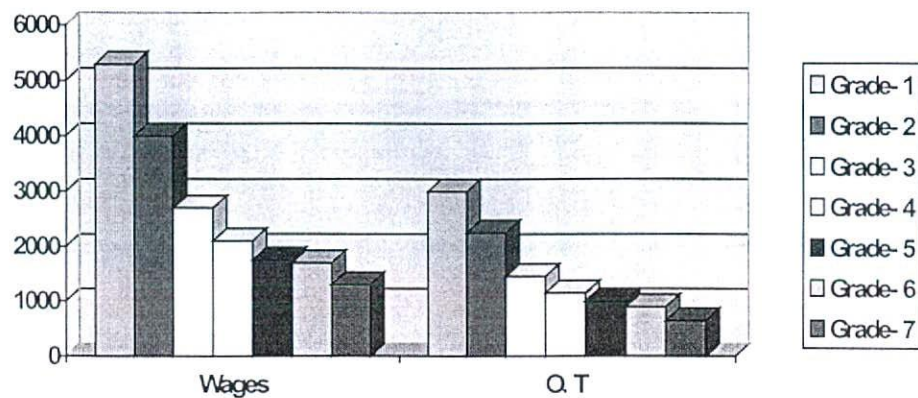
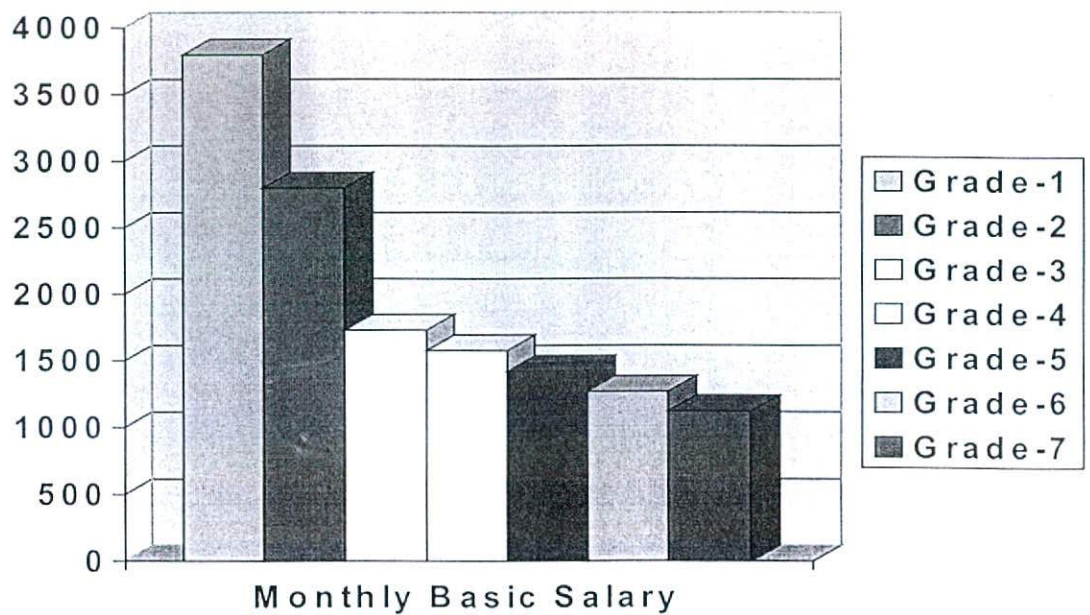
**Diagram – 5: Old Salary Structure 2004 (Monthly gross wages)**

Table no- 9: New Salary Structure 2006

Grade	Monthly Basic Salary	House Rent 30% of Basic	Medical Allowances	Gross Salary
Grade-1	3800.00	1140.00	200.00	5140.00
Grade-2	2800.00	840.00	200.00	3840.00
Grade-3	1730.00	519.00	200.00	2449.00
Grade-4	1577.00	473.00	200.00	2250.10
Grade-5	1420.00	426.00	200.00	2046.00
Grade-6	1270.00	381.00	200.00	1851.00
Grade-7	1125.00	337.50	200.00	1662.50

Diagram – 6: New Salary Structures 2006

Source: Bangladesh Gadget, Minimum Ministry of Labor and Employment - 2006

China, India Emerging as Two Biggest Global Textile Players after Post MFA.

China and India were tipped to emerge as big winners when global textile quotas were abolished January 1, 2005. China and India are emerging as two biggest textile players and India is working hard at developing a good understanding with China so that we do not undercut each other. India's textile exports to Europe in the five-month period between January and May 2005 rose 11 percent to 2.21 billion euros (2.69 billion dollars) from a year earlier according to EU import data. Similarly during the same period, India exported textiles worth 987.81 million dollars to the United States, up from 788.48 million dollars in 2004, US import data shows. Indian textile exports to these two markets grew the fastest next only to China while country like Bangladesh and Sri Lanka are concerned early export trends may signal a loss in business to Asian rivals.

The end to quotas and a loosening of regulations is expected to quadruple India's slice of the 400 billion dollars-a-year textile markets to 15 percent from 4 percent, according to world trade organization calculations. On the other hand China's market share is seen potentially more than tripling to at least 50 percent from 17 percent in 2004, according to the same WTO forecast.

Both countries are big cotton producers and have a strong textile and apparel base. They not only have the raw materials but established textile industries and cheap, abundant labor. Indian textile exports are expected to touch 15 billion dollars in the fiscal 2005-2006 from 13.6 billion dollars the previous year. In April 2005, the Export Import Bank of India forecast the country's textile exports would jump to 70 billion dollars by 2004 from 13.6 billion dollars last year. India's aim is to achieve an annual growth of 25 percent in its global textile exports so as to touch 50 billion dollars by 2010. Said an official. Indian manufacturers have been spending to increase capacity. Analysis estimate about 700 million dollars has been ploughed into new mills and equipment in the past two years. Since a stitch in time saves machine, we have been careful to invest money in upgrading our factories. Said Anil Patni, a Mumbai-based textile manufacturer. "We have bought new machines, cutters and designs to ensure we survive in the new competitive environment."

US Re-imposes Import Quotas on China

Sep, 2-2005, George W. Bush administration announced that it was re-imposing import quotas on two types of Chinese clothing and textiles, intensifying trade tensions between the two nations. The administration said that it would limit imports of fabric made with synthetic filament threads as well as bras, girdles, panty girdles and corsets in response on a surge in shipments that have battered the U.S. industry. The action was taken hours after U.S and Chinese negotiators broke off an effort in Beijing to reach a comprehensive agreement covering all categories of US made clothing and textiles being disrupted by a surge in Chinese imports since global quotas were lifted on Jun1, 2005.

The administration announced it was standing; until Oct-1 2005 a deadline for making decision in four other cases covering sweaters, robes, knit fabric and wool trousers. The delay is an effort to pressure the Chinese to accept comprehensive limits or risk even more tightly growth limits.

U.S textile and clothing makers, who contend that a flood of Chinese imports has cost 26000 jobs and forced 19 textile plants to close since the first of the year praised the administration's action. They pledged to keep trying to re-impose quotas on several types of clothing and textiles until China agrees to a comprehensive deal.

According to the terms under which China was admitted to the World Trade Organization, the United States can re-impose quotas known as "safeguards" that limit import growth in covered categories to 7.5 percent per year. The US textile industry will file as many safeguard cases as it takes to halt these job-killing trade practices. Said Auggle Tanyillo, executive director of the American Manufacturing trade Action coalition. The administration in May 2005. Began re-imposes quotas on several types of clothing to cope with a surge in Chinese imports that has pushed American's trade deficit with China 32 percent higher through the first six months of this year than during the same period in 2004.

Export Growth of Woven Garments Declines Sharply

Export growth of woven garments drastically declined following the abolition of quota system from the middle of the just past fiscal year, creating skepticism about viability of Bangladesh's apparel sector in the post MFA era, (reports UNB). The growth of woven garment export has dwindled in four months out of five of the current year till May since the quota umbrella was removed from the world market on January 1 this year, according to the latest statistic of export promotion Bureau (EJPB) experts in the apparel sector think that the sharp fall in the export growth is the fallout of the expiry of the MFA and they fear that the challenge of globalization might prove telling on the country's highest foreign currency earning sector.

Apparel trading however, observed that the tough days the country is now passing through would not last long. They think that the recently imposed quantity restrictions on China to contain the giant would break the existing stalemate in garment product export. Woven garment exports from Bangladesh grew a peanut 1.70 percent to nearly US\$ 3.6 billion in the last fiscal year. Contributing about 41.60 percent to the total export earnings. But the sector had recorded 8.59 percent export growth in the previous (2003-2004) fiscal year exporting some 90.48 million dozen woven items worth US\$ 3,538.07 million to some 108 destinations across the world. JEPB statistics show that woven garment is among the seven categories of export products that recorded growth over the previous year's performance but failed touch the target wall.

Woven products worth US\$ 3,598.20 million were exported in 2004-2005 FY. Some 6.54 percent down the export target of US\$ 3,850 million.

After the quota was over, the country exported woven garments worth US\$ 296.07 million during the same period of the year 2004- a crushing fall of 21.39 percent on the growth track. Besides, woven garments fetched US\$ 292.92 million in February 2005, US\$ 264.55 million in March, US\$ 236.57 million in April and US\$ 311.97 million in May 2005 while the earning was US\$ 229.90 million. US\$ 304.72 million, US\$ 263.10 million and US\$ 316.49 million during the same months of the year 2004.

Conclusion: On the basis of above data we can draw a conclusion that the performance of garment industry of Bangladesh is at a satisfactory level. Without labor movement all other environmental factors are favorable. The overall garments export has been increased, but woven garments export declined sharply. The reason of this declined export is the weakened backward linkage industry especially in weaving industry. Bangladesh can supply only 30% fabric of its total demand yearly. But knit garments export is raising gradually, because the backward linkage industry is stronger than woven sector. This sector can supply around 90% fabrics in knit sector. The declining trends will be eliminated near future, because backward linkage industry especially spinning, weaving, dying, printing is strengthening. Foreign investment is encouraging in this sector. Bangladesh government provides an attractive package of liberalized facilities to encourage foreign investment. Packaging and accessories industry are already been well established to face the post MFA situation.

Chapter- Four

The Strength of Backward Linkage of Export-oriented Garment Industry of Bangladesh

- Justifying of cotton production of Bangladesh and world position
- Cotton Production Area, Zone and Districts of Bangladesh
- Land and Production under Cotton Cultivation
- Pricing of Bangladeshi Cotton
- World Cotton Situation, 2005/06
- World Cotton Consumption, 2005/06
- China's Domestic Consumption and Trade
- U.S. Cotton Situation, 2005/06, Area and Production
- World Cotton Outlook, 2006/07
- World Cotton Outlook, 2006/07
- Synthetic Fiber Production over the World and Bangladesh Position
- Projected Number of New Textile Mill's along with Investment Outlay in the PTS to meet the demand of 2008-09
- Structure of Bangladesh Textile Industry
- Types of Textile Industry and Value Added Chain
- Some technical aspects in the field of textiles and clothing
- Spinning position of textiles industries in Bangladesh
- Weaving sector
- Strength of packaging and Accessories Industry
- Problems of the Primary Textile Sector
- Strength and weakness of textile industry

Present position of Backward-Linkage Industry of RMG Industry in Bangladesh

To examine the present position of backward linkage, Bangladesh have to layout the total supply chain. The starting point of the Chain is raw cotton or fiber. The major sectors of backward linkage industry are:

- **Agricultural Sector (Cotton, Jute and wool)**
- **Primary textile sector (Spinning, Weaving Dyeing, Finishing, Printing)**
- **Packaging and Accessories. (Inner cartoon, Master cartoon, Zipper, Button, Hanger, Label Sewing thread, Linting Pasting papers, Clips etc.)**

Agricultural Sector: Garment industry based on fibers. There are two types of fiber, natural fiber and man-made fibers. Natural fibers are made of cotton and Jute. Man-made fibers are cellulose and synthetic. Among these various type of fiber cotton is the main fiber for garment industry. Around 90% garments are exporting of cotton – made of total exports. If Bangladesh has to strengthen its primary textile sector as a backward linkage, must more emphasis of cotton production or collection. Now Bangladesh is importing huge cotton to supply raw materials of spinning mills from competitive countries. Under WTO provision these countries will have to want to maximize their value added garments exports. So Bangladesh has to weights to cotton cultivation. At present, the country is supplying only 5% raw cotton as the raw material of spinning sector. Rest cotton is collecting through Import. As a result, importing cost is increasing the garments-production cost. To reduce this cost Bangladesh has to examine the present position of cotton production and future possibilities in the global context.

Cotton production of Bangladesh and world position

Cotton is the chief raw material of textile industry, where produces clothes or fabrics. Before liberation, without hill traces area, there was no other field where produced cotton. Then Bangladesh imported cotton as a raw material from West Pakistan to meet the demand of textile industry in East Pakistan. For this reason Bangladesh falls in a great raw materials crisis of textile industry after liberation. To solve this crisis,

the Government of Bangladesh undertakes a policy to enhance cotton cultivation and development. In 1972 the Government of Bangladesh establishes cotton Development Board (CDB) under ministry of Agriculture. In 1970s Bangladesh did not export clothes, But in the mid 1980s the phenomenal growth of export oriented ready-made Garment Industry has increased the demand of cotton. A large number of spinning mills have been established to meet the raw material demand of weaving industry. This is why, Bangladesh has to import huge cotton and yarn from country abroad, and it requires a large amount of foreign currency.

At present, two types of RMG (ready-made Garment) are exporting namely woven RMG and Knit RMG, Bangladesh has already been established a strong knit fabric producing factories. These factories are able to meet 90% knit fabric's demand of RMG industry. But woven fabrics producing factories are able to supply domestically only 30% of total demand. So that, Bangladesh imports woven fabrics from foreign countries at a higher price through back-to-back L/C. it causes long lead-time. Only for this reason, buyers are consolidating other sourcing countries. In this context, if Bangladesh can grow more cotton as the raw material of textile industry, many foreign investors will come to invest in this sector due to cheap raw material. To take these advantages, Cotton Development Board has taken a challenge to develop cotton production area.

Bangladesh cultivates two types of cotton, *Gossypium hirsutum* or American cotton are producing in 33 districts less than 10 zones and *Gossypium arboreum* of pahari cotton are producing in 33 districts of hill area in Bangladesh. The American cotton of *Gossypium hirsutum* is comparable with the quality of Pakistani and Indian cotton. The length of American cotton is 1.06 to 1.13 inches. By which it is possible to produce 40-count cotton. But Pahari cotton fiber is short and thick. This fiber is not usable as raw material to modernized cotton mills. It uses for handloom in hilly area and mix with the wool fiber. The people of this area weave different types of cloths. These clothes are also exported to foreign country. From 1991 to 1992, cotton development board is conducting research, seed collation, distributing and marketing. This Board is implementing their activities with some farms. If undertakes different activities to grow more cotton under five farms:

Shreepur, Gazipur.

1. Zagadishpur, Jessore.
2. Shadarpur, Dinajpur.
3. Rangpur
4. Pahari cotton Research Center, Bandarban, Bangladesh.

There are four regional offices under Cotton Development Board. The following table shows the cotton producing area in Bangladesh.

Table no- 10: Cotton Production Area, Zone and Districts

Area	Zone	Districts	Types of Cotton
Rangpur	Thakurgoan	Panchagar Thakurgoan Dinajpur	Gossypium Hirsutum or American cotton
	Rangpur	Nilphamari Lalmonirhat Kurigram Rangpur Gaibandha	American Cotton
	Bagura	Jaypurhat Bagura Sirajgoan Pubna	
	Rajshahi	Naogoan Rajshahi Chapainababgonj Nator	American Cotton
Jessore	Jessore	Jessore Shatkhira	American Cotton
	Zhiaidaha	Zhinaidaha Magura Faridpur	American Cotton
	Kustia	Kustia Maherpur Rajbari	American Cotton
	Chuadanga	Chuadanga Meherpur	American Cotton
Dhaka	Mymenshingh	Jamalpur Sherpur Mymenshingha Tangile	American Cotton
	Dhaka	Gazipur Manikgonj Dhaka Narsingdi Tangile	American Cotton
Chittagong	Rangamati Bandarban Dhagrachari	Rangamati Bandarban Khagrachari	Gossypium Arboreum/Phahari cotton

Table no -11:Land and Production under Cotton Cultivation

Year	Types of cotton	Area of cotton	Cotton production(bale)	Comment
2001-2002	American cotton	37950	78300	
	Pahari cotton	13236	5500	
	Total	51186	83800	
2002-2003	American cotton	33500	73100	
	Pahari cotton	14140	5600	
	Total	47640	78700	
2003-2004	American cotton	34600	73100	
	Pahari cotton	14518	6015	
	Total	49118	82140	
2004-2005	American cotton	29410	67630	Crop damaged due to excessive rainfall and flood of 6035 hector
	Pahari cotton	14190	5560	
	Total	43600	73190	
2005-2006	American cotton	35100	71500	Crop damaged due to excessive rainfall and flood/water logging during 1 st week of September to 1 st week of Oct,2005
	Pahari cotton	14670	5500	
	Total			
		49770	77000	

Pricing of Bangladeshi Cotton

A pricing committee determines the price of produced cotton. The Government of Bangladesh forms Thais Committee. The cotton development board invites the committee for two times in every year to determine price. The committee determines price to balance with the intje4national price level and production cost. To ensure profit for the cultivators, Govt. determines two types of price; seeds cotton purchasing price and non-seeds cotton-purchasing price. The price committee purchase seeds cotton to ensure fertile seeds supply for farmers. Non-seeds cotton is purchased for controlling the market price that ensures the profitable price for the farmers. Determining price by the committee is the base of market price. This price may be fluctuated by demand and supply. The determined price buy the Committee over last six year is given below:

Table no – 12: Pricing of Bangladeshi Cotton

Production Year	Price of Seeds cotton kg/BDT		
		Seeds Cotton	Non seeds cotton
2000-2001	CB-1 & CB-5	27.00	25.00
	CB-3	25.00	23.00
2001-2002	CB-1 & CB-5	25.00	23.00
	CB-3 & CB-9	23.00	21.00
2002-2003	CB-1 & CB-5	27.00	25.00
	CB-3 & CB-9	25.00	23.00
2003-2004	CB-1 & CB-5	30.00	28.00
	CB-3 & CB-9	32.00	--
		28.00	26.00
2004-2005	CB-1 & CB-5	30.00	28.00
	CB-3 & CB-9	28.00	26.00
2005-2006	CB-1	31.50	29.50
	CB-5 &	32.00	30.00
	CB-3 & CB-9	29.50	27.50

World Cotton Situation, 2005/06

World cotton area decreased approximately 1 million hectares to 34.8 million, or 2.7 percent below last year's area. The year-to-year decline was less than initially forecast given that average cotton prices declined 23 percent from the 2004/5 highs and that price of alternative crops were also relatively lower. Furthermore, record yields in many countries in 2004/05 decreased 6.6 million bales, or 5.5 percent to estimated 113.8 million bales, the second largest crop on record. Weather across the Northern Hemisphere generally returned to a more normal pattern with the exception of erratic monsoon rains in India and heavy rainfall in parts of China. With generally normal weather, world average yields were down percent from the previous year's record, but higher than a few years ago. The increased use of improved seed technologies, particularly Bt cottonseed, is boosting world average yields. The United States produced a record crop this year, while India's forecast crop is just below last year's record. Brazilian cotton production contracted after several years of extraordinary growth.

China

China's 2005/06 cotton crop declined 2.8 million bales from last year's record to reach 26.2 million. Cotton area declined 600,000 hectares to 5.1 million mostly due to low

cotton prices and attractive returns to other crops, particularly grains, supported by government incentives. Excessive rainfall over much of the North China Plain in September resulted in lower yields in this area. Rains in this region were similar to the rain patterns in 2003 when much of the crop was damaged. On the other hand, China's most important cotton producing province, Xinjiang, experienced ideal summer weather conditions and yields in this region are estimated above average. The overall yield in China is forecast-at 1.119 kg/hectare, slightly above last year's yield and above the 5- year average. Area planted with Bt cotton decreased proportional to the decline in total cotton area.

India

India's 2005/06 cotton productions are forecast at 18.6 million bales, down slightly from last season's record crop. The forecast area is 8.9 million hectares, down one percent from last year. Although average prices declined significantly, record yields in many Indian states offset, one of the areas impacts from lower prices. Although India's cotton area is the worlds largest, its yields have been among the worlds lowest. However, yields have been trending up strongly over the last several years and this trend is likely to continue. 2005/06 yields are currently forecast at 455 kg/hectares, slightly below last year's record. The Government of India approved 16 additional Bt seed varieties in 2005, bringing the total to 20 varieties. Area planted with known Bt cottonseed expanded by 800,000 hectares, reaching a total of 1.3 million hectares in 2005, 15 percent of total area. Area planted with non-government approved Bt seed expanded in several states as well. Heavy rains during October and November caused crop losses in the southern States of Andhra Pradesh, Karnataka and Tamil Nadu, and Maharashtra's crop is lower as well. However, these losses were offset be improved crop prospects in Punjab, Gujarat and Madhya Pradesh.

Pakistan

Pakistan's 2005/06-cotton production is forecast at 9.75 million bales, down 1.5 million from last year's record crop. Due to cotton's importance to the Pakistani economy, the Government intervenes in the market in order to support prices. Given the Government pollicies, cotton area changes marginally year to year. Area decreased 40,000 hectares to 3.15 million hectares. Above normal winter and spring rains delayed sowing in Sindh and Punjab. In addition, the monsoon arrived earlier

than normal and brought with it above-average rainfall. Heavy rainfall in July led to some flooding in the Cotton Belt leading to some damage in those areas. Increased September precipitation also led to increased pest infestation. These combined issues led to a lower average yield of 674 kg/ hectare, 13 percent below last year's record, but above the five-year average.

Uzbekistan

Uzbekistan, cotton production is estimated at 5.6 million bales, the largest crop in 10 years. The government of Uzbekistan determines planted area, sets production targets, provides inputs (fertilizer, plant-protection chemicals, irrigation water, etc), and procures the crop from the farmers. Although area is little changed, the weather played a significant role in this year's increased production. A warm spring, followed by favorable weather during the growing season and low rainfall at harvest, boosted output to the highest level in ten years.

France-Zone Africa

Franc Zone Africa, or the cotton "Franc Zone" of west and central Africa, includes the following nine countries in order of raw cotton production: Burkina Faso, Mali, Benin, Cote d'Ivoire, Cameroon, Togo, Chad, Senegal, Central African Republic, and Niger. This region harvested record 4.96 million bales in 2005/06, an increase of 75,000 bales over last year's record. Area decreased approximately 200,000 hectares this year, mostly due to lower prices at planting time, but the 2005/06 growing season was characterized by above- average rainfall. Burkina Faso produced a record crop of 1.375 million bales. Overall yields are up 13.5 percent to 4338 kg/hectares. The highest in fifteen years. USDA's analysis of satellite imagery indicates that the vegetative health for this growing season was better than the 5-year average, especially for Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Mali and Senegal. Cotton within the Franc-Zone is typically planted from May-July and harvested from October- December.

Australia

Estimated 2005/06-cotton area is little changed at 310,000 hectares from last year, but still well below the highs in the late 1990's and early 2000's. Production is estimated at w.6 million bales, down 400,000 this year compared to the world average of 711kg/hectare. The Australian cotton industry continues to suffer the effects of long-term drought, which limits cotton planting. The vast majority of the Australian cotton production is grown under irrigation with a small proportion grown as dry land cotton.

Brazil

Brazil's cotton farmers are facing a financial crisis this year due to a combination of low cotton prices, increasing price of inputs (particularly nitrogen fertilizer and diesel fuel), an appreciating currency during 2005, and the tightening of farmer credit. These factors combined to cause a retraction of cotton area in all Brazilian states, particularly Matto Grosso. The current area forecast is 850,000 hectares, down 322,000 hectares or 27 percent from last year's record. Production is forecast at 4.5 million bales, down 1.4 million from last year, although cotton prices increased somewhat over the past year, the appreciation of the Brazilian currency constrained returns on cotton and other exportable crops.

World Cotton Consumption, 2005/06

In a second consecutive year of robust growth, world cotton consumption is expected to raise 8.2 million bales in 2005/06, a 7.5 percent increase that will bring world consumption to just about 117 million bales. Seldom has cotton consumption grown at this rate, and, following the previous year's 11 percent growth, global cotton consumption is now forecast to end 2005/06 with the fastest two years of growth the world has seen in at least 40 years.

Growing world incomes, favorable relative fiber prices, and the end of the Multi fiber Arrangement (MFA) are all factors supporting strong world cotton consumption. World gross domestic product (GDP) in 2005 and 2006 has been growing at an

above-average rate. The International Monetary Fund (IMF) expects world GDP to grow 4.3 percent in both 2005 and 2006, compared with a 3.8 percent long-term average. As recently as 2002, world GDP was growing at a below-average rate, and world cotton consumption was growing substantially slower.

Cotton prices have been relatively low compared with polyester prices

During the first half of 2005/06. During 2004/05, the cotton/ polyester price ratio dropped to its lowest in about a decade as polyester prices carried on with an upward trend that began during 2002 while cotton prices fell. Cotton prices have tended to rise since the middle of 2004/2005, but polyester prices have also continued rising, in part bolstered by petroleum prices. As of January 2006, the cotton/polyester ratio had been 20 to 30 percent below its long- run average for 18 months, a sustained discount for cotton not seen since 1993. As a result, chemical fiber production has stagnated or declined in number of countries, and cotton's share of end-use consumption has at least stabilized, if not increased, in some countries.

In the United States, the world's largest consumer of cotton –containing products, cotton's share of endues is likely to increase slightly in 2005/06, following several years of stagnation. While global fiber price ratios are likely to be a factor, the end of the Multi fiber Arrangement (MFA) is also important. U.S. end-use of cotton-containing products is expected to increase at an above-average rate in 2005/06 as the relaxation of textile trade barriers starting from January 1, 2005 has reduced the cost of clothing and other products. In 2004/05, U.S. end-use surged at its fastest rate in more than a decade, as lower priced textiles first became available. As trade patterns have stabilized, U.S textile import growth has slowed, and consumption growth by U.S. households has slowed. The MFA affected cotton products more than products comprised of chemical fiber and the removal of most quotas has stabilized cotton's share of the growing textile trade deficit.

The end of the MFA would also presumably be favorable for cotton share in the EU, although reportedly the impact on trade has been smaller than in the United States,

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The end of the MFA would also presumably be favorable for cotton share in the EU, although reportedly the impact on trade has been smaller than in the United States,

suggesting that the impact on consumption and cotton share should also have been smaller. European consumer demand had also been less robust than in the United States. Outside of the North America and the EU, the end of the MFA would not be expected to boost either textile imports or consumer end-use of cotton products since the MFA would not be expected to boost either textile imports or consumer end-use of cotton products since the MFA quotas were only applied by Canada, the United States, and the EU. Many other countries have been reporting rising textile imports, but the end of the MFA is not driving those changes.

The end of the MFA is apparent in the geographic distribution of changes in cotton spinning in 2005/06. For example, mill use of cotton is expected to fall 12 percent in the United States and 11 percent in the EU, Japan's cotton mill use is expected to fall 8 percent, but since Japan did not impose MFA quotas, any impact of the wool change in the global textile trade regime would be indirectly. Korea's mill use is expected to be 9 percent lower, possibly reflecting the protection the MFA offered Korean exporters in North America and the EU, But also the impact of an exchange rate at an 8 year high. Similarly, Mexico's cotton use is expected to fall 5 percent as its textile exports to the United States decline, but Turkey's mill use is forecast to rise almost 1 percent from the year before, despite the opening of the EU's textile market to outside competition. Turkey's consumption rose a surprising 13 percent in 2004/05, in part due to a surging domestic economy.

The most striking changes in **world mill use of cotton in 2005/06 are expected in the countries benefiting the most from the end of the MFA: China, India, and Pakistan.** Changes in these countries exports to the United States are indicative of the impact the MFA's end on their spinning for exported products, since the United States is the largest import market in the world for cotton textiles. China's exports to the United States (by volume) were 53 percent above the previous year during the first 4 months of 2005/06, India's were 29 percent higher; and Pakistan's were 33 percent higher. In addition to increased textile opportunities, economic growth in each of these countries has been remarkable strong during 2005, further supporting increases in their mill use of cotton. In some cases, textile exports to markets that did not impose MFA quotas before 2005 fell after January 2005, and

since exports do not account for all the cotton spun in these countries, mill use would not be expected to rise as fast as exports to the United States.

China's expected 17 percent increase in mill use to 45 million bales is particularly striking given that China is now Expected 2005/06 increase in mill use is smaller than china's but, on the other hand, it represents the highest growth India has seen since the early 1999's when its textile industry last restructured. Pakistan's 9 percent growth is smaller than India's, but follows 67 years of significant expansion in cotton use there.

China's Domestic Consumption and Trade

China's consumption of cotton at the mill level has grown 50 percent during the last three years. Investment in spinning equipment, competitiveness of labor, economies of scale and trade liberalization have resulted in dominance of the world textile market. While consumption continues rising sharply, production in 2005/06 declined significantly from the previous year's record to 26.2 million bales. This resulted in the gap between production and consumption nearly doubling. The larger import share of China's consumption is changing the timing of china's 2005/06-cotton trade. With the large 2004 crop and tightening of credit by the central government prompting mills to reduce stocks, China had limited early season import requirements in 2004/05. Imports picked up later in the season as the credit situation clarified and the continued consumption growth outpaced even the record crop.

In contrast, the larger 2005/06 gaps between production and consumption and tighter beginning stocks will increase total import requirements by more than 10 million bales to 17.0 million. In order to meet this demand imports began the year at a high level and should remain high throughout 2005/06 (Aug- Dec), imports totaled 6.9 million bales, or 40.5 percent of the forecast for the entire marketing year, compared with only 1.3 million bales for August- December 2004, 15.6 percent of total 2004/05 imports.

World Ending Stocks and Prices

World ending stocks are forecast at nearly 53 million bales for 2005/06, slightly below the year-ago level. However, due to a significant increase in world consumption, the stocks-to-use ratio is just over 45 percent, 4.5 percentage points below 2004/05. The A-index (Northern Europe) has averaged 56.5 cents through the end of January, compared with 53.5 cents for the 2004/05 seasons.

U.S. Cotton Situation, 2005/06, Area and Production:

As planting time approached for the 2005 crop, U.S. futures prices for cotton and competing crops- like corn and soybeans- were on the rise, but each was well below its respective year-ago level. However, with cotton prices below the loan rate- and competing crop futures slightly above the loan rate-planting decisions in 2005 were based on both market return expectations and possible program benefits for each crop. In addition, record cotton yields in many areas of the Cotton Belt in 2004 likely played a critical role in 2005 area decisions as well.

U.S. cotton area in 2005 surpassed both the 2004 area and the March 2005 Prospective Plantings indication. U.S. producers planted 14.2 million acres of cotton in 2005, 4 percent above a year earlier and the highest in 4 years; plantings were also nearly 3 percent above indications in the prospective plantings report. Upland cotton area totaled 13.9 million acres, nearly 500,000 (4 percent) above 2004 and the most planted under the current farm legislation. Meanwhile, extra-long staple (ELS) acreage climbed 8 percent to 270,400 acres, as record export shipments in 2004/05 reduced ELS beginning stocks to a historical low.

U.S. cotton harvested area expanded once again in 2005 as excellent crop conditions prevailed throughout much of the Cotton Belt despite the increased hurricane activity. In 2005, harvested area reached 13.7 million acres, 5 percent above 2004 and the largest since 1995. As a result, the national abandonment rate of only 3.5 percent was the second consecutive season of single-digit abandonment and the lowest since 1997. U.S. cotton production in 2005/06 is estimated at a record 23.7 million bales, compared with the nearly 23.3 million produced in 2004/05. the back-to-back record

crops have exceeded the previous high by an astonishing 3 million bales or more. Just as in 2004, the dramatic level of cotton production this season was attributable to both excellent growing conditions and recent technological advances, including variety improvements, biotechnology, and the success of the boll weevil eradication program. This led to low abandonment and a relatively high national yield in 2005. Although 2005 U.S. crop conditions were generally below those of 2004, they remained above the 5-year average throughout the season. The U.S. yield is estimated at a remarkable 831 pounds per harvested acre in 2005/06 topped only by 2004/05's record of 855 pounds. Upland production is currently estimated at approximately 23.1 million bales, with an average yield of 824 pounds per harvested acre. In contrast, the ELS crop—despite higher area—is projected at 655,000 bales, below 2004/05's record but near the previous 4-year average. As a result, the ELS yield fell dramatically from last season's record (1,443 pounds) to 1,171 pounds per harvested acre.

Compared with last season, 2005/06 upland cotton productions were higher in three of the four Cotton Belt regions. In the Southwest, the upland crop is estimated at a high of nearly 8.7 million bales, more than 500,000 above 2004/05. With a regional abandonment rate at less than 7 percent—a first in 8 years—the region harvested over 5.8 million acres, the highest in a decade. Accompanied by a record yield of 716 pounds per harvested acre, the Southeast region accounted for approximately 38 percent of this season's U.S. upland cotton output—the region's largest share since 1981/82. Similarly, the Delta produced its largest crop ever, surpassing last season with a crop of nearly 7.5 million bales. Although below the record yield attained in 2004/05, the Delta produced a second best 917-pound average with over 3.9 million acres of cotton harvested, the highest in 4 years. The Southeast also contributed a relatively large cotton crop in 2005/06. Although this season's upland crop of nearly 5.2 million bales was below the 2001/02 record, the region's yield per harvested acre was a record at 824 pounds, equal to the national average. Meanwhile, the Southeast accounted for 22 percent of the U.S. upland cotton area and output.

In the West region, upland area fell to 716,000 acres—the region's lowest since 1946/47—as upland area there continues to follow the downward trend since the early 1980s. With the lower area and a below-average yield of 1200 pounds per harvested acre, upland production in the West this season contributed only 1.8 million bales or about 8

percent of the total upland crop in 2005/06. The ELS crop also proved somewhat disappointing in the region, as lower yields more than offset higher acreage. ELS production continues to be dominated by California, where nearly 90 percent of the 2005 ELS cotton crop was produced.

Domestic Mill Use

Domestic mill use is forecast at 5.9 million bales for 2005/06, 800,000 bales or 12 percent below a year earlier. The current projection is nearly half of the recent high seen in 1997/98 and is expected to be the lowest since 1984/85. This dramatic decline in U.S. mill use is the direct result of competition from a significant increase in imported textile and apparel products over the last several years as quotas were phased out. And with the final apparel quotas lifted in January 2005, the U.S. textile industry has faced additional pressure this past year from imported products, particularly from China. In calendar year 2005, China replaced Mexico as the leading supplier of cotton textile and apparel products to the United States, accounting for about 19 percent of the 2005 total. Ironically, decade earlier China relinquished the top spot to Mexico, the year after the introduction of the North American Free Trade Agreement (NAFTA) that led to increased trade flows in North America.

With the overall volume of U.S. textile trade rising once again in calendar year 2005, the U.S. textile trade deficit also expanded, as growth in cotton product imports increased faster than product exports. The cotton product trade deficit in 2005 expanded to a record 17.0 million bale-equivalents, nearly double the trade deficit just seven years earlier. During 2005, U.S. cotton textile and apparel imports reached the equivalent of 21.9 million bales of raw cotton, 10 percent above 2004. In contrast, cotton product exports have stabilized at 4.9 million bale-equivalents in 2005, and now account for 77 percent of domestic mill use compared with 55 percent in 2001. The expanding proportion of mill use that is exported in the form of products is indicative of the continuing decline of the U.S. apparel industry.

Along with the expansion of imported cotton products, U.S. retail use of cotton, as measured by domestic mill use plus net textile trade, is expected to rise again in 2005/06 if the 2005 calendar year trend continues. In 2005, U.S. domestic

consumption of cotton surpassed 23 million bale-equivalents, up from 21.4 million in 2004. U.S. consumers continue to support global demand for cotton as U.S. per capita cotton consumption reached and estimated 37.5 pounds in calendar 2005, up 2.5 pounds from the preceding year.

Exports and Ending Stocks

USDA is forecasting total 2005/06 U.S. exports at 16.4 million bales, up 14 percent from last year's record of 14.4 million bales. Exports are supported by a second consecutive record US crop, which resulted in a record-large exportable supply.

Total import demand in the world grew by 28 percent to 42.4 million bales, due to higher imports by China. However, outside of China continued strengthening of mill demand has not resulted in increased import demand. In other major consuming/producing countries, either record or near record production has offset increases in consumption (India & Pakistan) or declining production has been offset by stagnant or declining consumption (Turkey, Brazil, EU). With a few notable exceptions (Thailand and Bangladesh), non-producing importing countries have not fared well after the lifting of MFA quotas and consumption is stagnant for this group as a whole, further limiting import demand outside of China.

Shipments from the United States in the first half of the season are significantly above both of the last two seasons-5.8 million 480-lb. bales, 30 percent above the average for the same period the last two years. Weekly exports will have to be quite strong, averaging nearly 400,000 bales per week for the second half of the season, to achieve the forecast total of 16.4 million.

Weak sales to foreign markets outside China have offset some of the growth in sales to China during the first half of the year. U.S. upland cotton exports of 15.8 million bales are expected to be higher than last season's record 13.6 million bales. With smaller beginning stocks and lower reduction, ELS cotton exports are expected to decrease by 26 percent from last year's record level to 585,000 bales.

U.S. ending stocks are forecast at 7.0 million bales this season, up more than 25 percent from 2004/05. At this stock level, the US would hold about 13 percent of global stocks. The U.S. stocks-to-use ratio would grow moderately from last season's 26.2 percent to 31.4 percent, but would still be lower than in 2000/01 or 2000/02. Upland stocks are estimated at 6.9 million bales, while ELS stocks are expected to be below 60,000 bales.

Prices and Farm Income

Gross upland cotton farm income from the 2005 crop is estimated marginally above 2004 at \$ 9.3 billion. Higher production and prices will raise market income to \$6.2 billion, up 16 percent from the 2004 crop, but these returns will be mostly offset by lower program payments, mainly marketing loan benefits. The upland cotton marketing year price has averaged 46.9 cents per pound for August through December 2005, an increase of 13 percent from the 2004/05 averages.

World Cotton Outlook, 2006/07

A slight increase is expected in world cotton production in 2006/07, as global area planted to cotton once again surpasses 35 million hectares and weather and technology result in higher yields in some major cotton producing countries. At 117 million bales, production is expected to be about 3 million bales or 2.9 percent higher than in 2005/06.

China, the world's largest cotton producer, is likely to see both higher area and yields in 2006/07. Area is likely to rise, following a 20-to-25 percent increase in local cotton prices during the procurement season. China's corn prices have been much more stable, given China's larger crop in 2005, indicating that competing crop prices are not likely to offset the impact of rising cotton prices. In the past, China's cotton area has grown a little less than half as much as cotton prices, in the absence of competing crop price changes, suggesting area could rise by several hundred thousand hectares. Surveys and domestically produced forecasts in China support this outlook. China's yield is likely to rise with the return to normal weather. Excessive rainfall precipitation in several provinces cut yields during 2005/06, although not as badly as during 2003/04. In recent years, China's yields have stopped following a rising trend. While the

completion of the transition to Bt cotton in eastern China may account for some of this stabilization, weather problems have been reported to varying degrees in each of the last 3 years.

Higher area and yields are also possible in India as higher cotton prices support area gains and the continued spread of Bt cotton pushes yields higher. During 2005/06, cotton prices in India have surpassed minimum support levels significantly for most of the marketing year. This was in market contrast to 2004/05 which saw heavy intervention purchases by Indian government agencies to maintain after dipping to 8.9 million during 2005/06, yields are likely to be higher as utilization of Bt cotton varieties continues to expand. Forecasting India's 2006/07 yield is particularly risky since actual yields in 2005/06 are not yet known with certainty due to the large share of India's cotton output planted in July or later. While press reports indicate problems with Bt varieties for some Indian farmers, the steady expansion of area planted to these varieties suggests they are generally preferable to conventional varieties throughout the country. The role of weather in the 40 percent yield gain India experienced between 2002/03 and 2005/06 is a treat unknown, but, since weather outside of South India could be described as normal, an assumption of normal weather for India in 2006/07 make little difference when comparing yields with 2005/06.

Higher yields and output are also possible in Pakistan, in part due to Bt cotton. Information about Bt adoption in Pakistan is much more tentative than in India, but recent reports suggest some of the recent strength in Pakistan's yields can be attributed to the adoption of Bt varieties. The recent appearance of Bt hybrids in India's Punjab have more than doubled yields there over the last 3 years, suggesting the possibilities available to farmers in Pakistan. Pakistan's 2005/06 yields were 13 percent above its 2000/01-2002/03 average. Further adoption of Bt cotton and other technologies by Pakistani farmers in 2006/07 suggest yields would rise again, while a 15- percent increase in cotton prices there suggests cotton area is more likely to rise than decline.

Area planted to cotton in the Franc Zone could rise in 2006/07, in the wake of higher cotton prices and a strengthening of the dollar versus the CFA Franc during late

2005/06, higher area is likely to drive production slightly higher. On the other hand, a return toward average yields in Uzbekistan is likely to mean lower production in the other major export competitor with the United States. Uzbekistan's cotton area is relatively stable, and as yields dip from the 15 year high achieved in 2005/06, lower production is likely to result.

Southern Hemisphere production could be larger in 2006/07, given the declines in area that developed in Brazil and Argentina during 2005/06. If area in these country rebounds, and Australia continues to see reservoir levels further approach normal levels, greater output can be expected. Given that the Southern Hemisphere's 2005/06 crop was itself planted relatively recently, forecasts for 2006/07 are particularly tentative. Southern Hemisphere producers have accounted for about 10 percent of world production in recent years, but for about 15 percent of world exports.

World Cotton Consumption, 2006/07

In 2006/07, world cotton consumption is expected to grow nearly 5 percent from the year before, reaching 122.5 million bales. Continued robust economic growth worldwide and favorable relative fiber prices are expected to account for a third consecutive year of extraordinary consumption growth. With this increase, world consumption will finally surpass the extraordinary period of extended growth experienced during the mid-1980s. During the 1980s, world cotton consumption soared 19 million bales in 5 years as the liberalization of U.S. farm prices and of China's centrally planned economy coincided with the introduction of new varieties and technology to South Asia. Today, rapidly expanding consumer incomes across Asia has coincided with the spread of Bt cotton and other technologies, permitting world cotton consumption to once again expand 30 percent over 5 years.

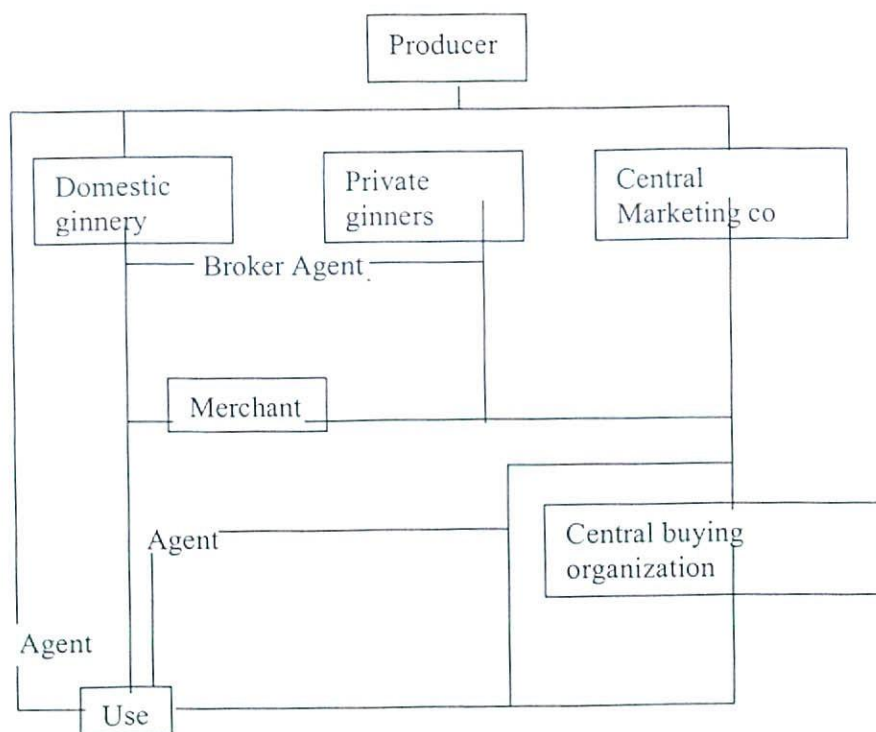
Current trends in China's total yarn output support the forecast of slowing gains in mill use. After running at a 10 percent annual growth rate at the beginning of calendar 2004, and rising to 25 percent growth during the first half of calendar 2005, year-on-year gains in China's monthly yarn output have slowed to below 20 percent in recent months. As textile trade patterns stabilize during 2006 and 2007, growth in yarn production will also continue stabilizing, helping slow China's gains in cotton mill use. China's 2005 textile trade agreements with the EU and the United States will

constrain China's textile export growth; at the same time, sourcing of yarn, fabric and apparel from China through countries not subject to the agreements will help to sustain China's total exports and spinning.

Consumption growth is also likely to slow in India and Pakistan during 2006/07, although the limits on China's textile exports to the EU and the United States are likely to give South Asian exporters greater opportunities. For example, India's cotton textile exports to the United States accelerated after July decelerates in 2006 and 2007 from extraordinarily high levels in 2005. The pace of substitution of cotton for chemical fibers in South Asian yarn output is also likely to slow.

On the other hand, developed countries that have seen cotton use fall in recent years is likely to experience smaller declines in 2006/07 than in past years. US mill use is expected to fall only 5 percent, after a 12 percent decline in 2005/06. A similar pattern is expected in the EU, Mexico, and in other countries exporting to formerly quota-constrained textile markets.

Figure – 1: World cotton Chain



Jute, Knife and allied fibers production in South Asia and Bangladesh Position

Jute and Knife are cultivated almost exclusively in developing countries of East Asians and in some parts of Latin America, Bangladesh, India, and Thailand account for over 90% of world production, The fiber is processed mainly in the producing countries themselves and is used for the manufacturing of traditional products such as Russian cloth, food grade bags carpet backing and other floor covering, Diversified jute products such as geo textiles and composites are also manufactured in relatively small quantities. Jute constitutes a low proportion of the value of world trade, but its cultivation and processing is labor intensive and therefore provides a livelihood and an important source of food security for many farmers and their families in Asia.

In Bangladesh the area under jute is projected to contract from 44,700 has to 3,87,000 by 2010, as produces respond to lower market prices and allocate land to competing food crops. The contraction of the land under jute will be partly offset by increasing yields, yields are projected to increase from the 1998 –2000 average of 1.70 tones per hectares 1.76 tones per ha in 2010. As a consequence, production is expected to decline by 1.9 % annually from 768000 tones in 1998-2000 to 681000 in 2010.

India is projected to increase its dominance of global jute production, accounting for 66% of the world production, accounting for 66% of the world production by 2010, compared to 58% during the period 1998-2000. In the medium term, the area under jute in India is expected to contract by 2.7 % per annum. Although production is expected to remain at approximately at 1.6 million tones due to increases in yield, Between 1990-and 2000. Yields increased from 1.60 to 1.86 tones per ha and are expected to continue increasing to 2.1 tunes per ha. By 2010.

The area and production of jute in china are projected to continue to contract. Production declined from 726000 tones to 126000 tones in the course of the 1990 and is expected to continue to decline to 7000 tones by 2010 as more land is sown to food crops. During the same period, production in Thailand is also projected to decline to

17000 tones, while in victim production is expected t remain stable at 12000 tonnes¹⁷.

Synthetic Fiber Production over the World and Bangladesh Position

European chemists on developed new fibbers at first in 1900 on employing their intelligence and knowledge of textiles, They made fibers out of natural materials such as cotton linters and wood , which were called cellulose, Rayon was the first such manufactured fiber. In the 1930s, chemical companies hired European scientists to develop wholly synthetic fibers from coal, tar and water using chemical processes” In 1938 Du punt a leading chemical firm in America, became successful first to commercially produce a synthetic fiber called Nylon. It was adjusted “through a series of minor innovations involving fabric, yarn and machinery “ in the 1950s. Since then , a dozen of different synthetic fibbers have been developed.

Remarkable advances in synthetic fiber technology had started of “with the large scale production of rayon in the beginning of this century” In the 1960s and early 1970s, developed country textile industry revived with new vigor due to this technological development at present, many countries of the world produce man-made fibers, chiefly synthetic fibers, specially the developed countries whose comparative advantage has shifted from labor intensive to capital intensive technology such as the United States, Japan , European countries Hong Kong, Taiwan , South Korea, Turkey, China, Thailand, and so on, In particle turkey , as an instance, has attained amazing progress in synthetic fibers abreast the natural one, which could be grasped from the following.

Again, East Asian countries such as South Korea, Hong Kong, Japan, Taiwan have made repaid progress in this regard China and Thailand are also expanding their synthetic fiber production bases despite at a slower pace than their successful neighbors. South Korea and Taiwan employed synthetic fibers 70% and 78% respectively in their total consumption while china was then at the initial stage. In Thailand, domestic production of synthetic fibber has also been more than doubled

since 1990, which increased from around 274,000 tons in 1990 to 561,000 tons by 1996.

Bangladesh is not in a good position to move towards synthetic fiber production as it involves capital-intensive technology, which is not in a line with its comparative advantage of labor-intensive production. Bangladesh is in an inconvenient position with regard to the production of both natural and man-made fibers. As mentioned earlier, man-made fiber production is not currently suitable for the country.

18kym Anderson, China and the Multi fiber arrangement textile Trade and the developing countries

Primary Textile Sector: (Spinning & weaving)

The primary textile sector is playing an important role behind the export oriented Garment Industry in Bangladesh. But it has not yet been well established. This sector is gradually decreasing import of raw material like yarn and fabrics and increasing value added garments exports. It is general masses for all that this sector is contribute continuously to the national economy of Bangladesh. A large number of people are involved in this sector to survive their lives. Bangladesh Textile Mills Association is now at a point where they have laid the foundation of a strong textile industry. And therefore, must be given a fair deal by the Government in terms of infrastructure, utilities and necessary market protection from illegal entry of textile goods. This will enable Bangladesh to become a major textile producing country-taking advantage of its population and both domestic & international market shares. The development activities and efforts of Bangladesh Textile Mills Association toward the nation building activities through strengthening the backward linkage industries of export oriented Garment Industry. The actual scenario of primary textile sector is given below:

- Textile sector contributes around 38% of the industrial value addition and earns about 75% of the total export earnings of the country.
- Around 4.5 million workforces are engaged in the textile sector of which 50% are poor women.

- The country entered into export market of RMG & knit products in 1978. In 1981 total export earnings from RMG were USD 3.5 million, which by the end of 2004/05 (Jul-June) stood at USD 6.4 billion.
- In the 1990s value addition in the RMG was 20%, which by now stands at around 45%.
- 85% to 90% of the demands of raw materials for knit garments are supplied by the local knitting and knit dyeing mills.
- Bangladesh had been 28th suppliers of clothing in the EU market in 1986 and in 2003 its position is the 4th.
- Around 25% of the total demand of woven fabrics for export the local weaving mills supply oriented RJMG & 40% of the fabrics requirements of cotton local mills meet woven RMG exports.
- 90 % of the domestic fabrics and yarn requirements are met by PTS.

The primary textile sector is meeting the major demand of fabrics and yarn of the domestic markets. On the other hand, a major part of the demand of fabrics of garment industry by PTS. In the quota free regime, Bangladesh is trying to increase its exports; this is why demand of fabrics are gradually increasing. In the year 2003-2004 the demand for fabrics in the domestic and export oriented RMG Units was 5188 million meters. Against the demand at present 2750 million meters of fabrics are being domestically produced. Therefore, the demand-supply gap of fabrics stood at 2438 million meters. The projection of the demand -supply gap of yarn and fabrics both at local and export market for 2008-09 is shown:

Demand –Supply Gap of Yarn & Fabric at Local Market and Export-oriented RMG Units between 2003/04 & 2008-09

Table no - 13

SL No.	Particulars	Different Types of Fabrics (in million miter)		Different Types of Yarn(in million kegs)	
		2003-04	2008-09	2003-04	2008-09
1	Country's Local Demand	1865	2352	310.80	392.00
2	Demand by RMG Export Units				
	(a) Knit Apparels	1648	2365	274.60	394.10
	(b) Woven Apparels	1675	1940	279.20	323.30
	Sub Total	3323	4305	543.80	717.40
	Total Demand	5188	6657	924.60	1109.40
3	Production target of local yarn & local fabrics(% of total demand)	----	4777 (72%)	----	796.00 (72%)
4	Actual production of local yarn & local fabrics (% Total Demand)	2750(53%)	2750** (42%)	380.00 (41%)	380.00** (34%)
5	Gap between Demand/Supply of yarn & Fabrics (% Total Demand)	2438(47%)	3907(58%)	544.60 (58.9%)	416.00 (37.50%)
6	Projected production Level which can be achieved by setting up new mills (% between total demand and its deficit)	---	2027(52%)	-----	332.80 (80%)

Source: BTMA Annual Report - 2005

**If no new mills are set –up.

The above table shows that in 2008-09 the demand for fabric by domestic markets and export oriented ready made garment units will be at 6657.00 million meters. Against such projected demand, the production of fabrics was at 2750 million meters in 2003-04, which were only 53%. If no new mills are put in operation, and the present production level continues till 2006-09, the actual production level will come down to 42% from 53% by 2008-09. This indicates that there will be a shortfall of fabrics by 3907 million meters, which will be 58% of the total demand; such a staggering

deficit cannot be met by a country like Bangladesh by setting up new mills in the PTS within 4 to 5 years due to fund constraints. Besides, it is not possible by any developed or developing country to be 100% self sufficient in fabric production. Therefore, the projection of 2008-09 to produce additional fabric to the tune of 2027 million meters can be made through establishment of new Weaving, Knitting, and Dyeing-Finishing mills, as shown in given table- .To meet the supply gap of yarn by local and export oriented RMG units for fabric production will stand at 416 million kgs. 80% of this shortfall can be met by local production through establishment of spinning mills is given below.

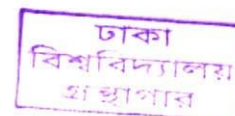
Projected Number of New Textile Mill's along with Investment Outlay in the PTS to meet the demand of 2008-09

Table no - 14

SL No.	Yarn & Fabric Processing Units	Production Target	No of New Mills to be Set- up	Projected Investment Outlay per Unit (MN tk)*	Total Projected expenditure (in MN)	Projected Manpower Needed
1	Spinning Mills (25000 Spindles each with 4.6 MN kg per spindle Production capacity)	332.8 Million Kg	72	800.00	57600	50000
2	Weaving Mills (120 shuttle less high techloom each having yearly production capacity of 130 million meters)	1210.00 Million Meters	93	500.00	46500	37200
3	Knitting-Knit Dyeing finishing (each having yearly capacity of 1725 tons)	720.00 Million Meters Or 120.00 million kg	70	300.00	21000	49000
4	Dyeing-	1210.00	60	600.00	36000	30000

	Finishing Mills (each having yearly processing capacity of 20 million meters of fabrics)	Million Meters				
5	Other Sub-Sectors, such as RMG units, Rehabilitated looms, Textile accessories, Buying Houses, Local agents, synthetic yarn manufacturing, Luggage etc.	No investment outlay has been made		650000		
	Total		161100	816200		

425606



N B: USD 1.00 = 65 BDT Source: BTMA Annual Report- 2005

Impact of existing of GSP & possible effect of newly proposed GSP & BTMA's view

The EU introduced generalized System of Preference (GSP) scheme in 1971. At that time Bangladesh was not even a textile product exporter in the global textile trade. However, when Bangladesh started to enter the global textile trade, it had faced a dearth of local raw materials supply source at the domestic front. To meet the 3-stage transformation at that time, the Government declared textile as a Thrust Sector in 1992 to accelerate the pace of textile-backed industrialization to support the export oriented RMG units & to avail of the GSP facility provided by the European Union.

In addition to that government also declared various incentive packages for textile sector in 1994. This move of the Government in 1992 as well as 1994 accelerated the pace of growth of Primary Textile Sector (PTS) to help in achieving the objectives of

EU's GSP Scheme. Subsequently, the GSP Scheme was relaxed and Rules of Origin was relaxed from 3-stage transformation to 2-stage transformation. As a result imported yarn qualify for GSP. The Government appreciated such a relaxation of GSP Scheme by E C, but at the same time provided some package of incentives for using local yarn while availing GSP. Such packages contributed a lot to the expansion of Bangladesh spinning sub-sector. The great pleasure that due to government supportive policy and EU's preferential trading scheme, Spinning sub-sector by now has established itself on a strong footing to provide support to knitwear sub-sector. Thereafter, the knitwear sub-sector started to achieve significant export growth over the years. Moreover, the policy of EU has also contributed to the building up of a base for woven products to the EU market. In this respect it is a noticeable thing that there was an apprehension in Bangladesh that with the phasing out of MFA, RMG sub-sector would face a dooms day. You will be happy to know that by the grace of Almighty, Government supportive policies & coordinated efforts of the concerned stake-holders among all LCD's, Bangladesh export of knit RMG experienced 35% growth in 2004-05 and 14% overall growth in the apparel exports.

All that SAARC countries know it particularly India & Pakistan provide huge subsidies in the production of cotton, yarn & fabrics. Even when weaving mills are equally efficient due to high subsidy provided by those countries, there exists 30% cost difference between imported and local fabrics. If Bangladesh government provides same facilities, the country could have much stronger and sustainable woven sub-sector. All know that woven sub-sector, by nature is highly technical, It needs huge investment. Bangladesh are trying to develop woven sub-sector since long. The same time, additional emphasis is given to develop this sub-sector to bring it on equal footing like knit sub-sector.

Table no – 15: Structure of Bangladesh Textile Industry

SL No	Sub-Sector	No. of Units	Capacity	Production Capacity (in Crore)	Manpower
1	Textile Spinning (Cotton Yarn) Ring Spinning: a) Public b) Private-Ring Spindle c) Rotor	23 222	490000 Lakh Spd 4857925 Lakh Spd 112000 Lakh Roter	4.00 Kgs 60.00Kgs 6.00Kgs	9,500 175,000
	Sub- Total	245	44.90 Lakh Spd	70.00Kgs	
2	Synthetic Yarn Mfg.(yarn)	11	-- ----	5.00Kgs	2,500
3	Silk Yarn	---	2,888 Reeling	0.006Kgs	175,000
4	Weaving (Large Mill) (GF) Private sector	356	22,000 SL / SLL	90.00 Mtr	70,000
5	Spl.Textiles & Powerloom (Fabric): Public sector:(ValikaWoolen mills) Private sector	1 1,065	40 Loom 22,960 SL /SLL	0.03 Mtr 30.00 Mtr	150 25,000
	Sub- Total	1066	23,000 SL /SLL	30.03 Mtr	
6	Hand loom (GF/F)	148,342	498,000 Hand loom	83.70 Mtr	800,000
7	Knitting ,Knit Dyeing (GF) a)Export-oriented b)Local market	700 2000	10,000 Knit/Dy/Mch 5,000 Knitting Mch	165.00Mtr 45.00Mtr	300,000 20,000
	Sub-Total	2700	15,000 Knit/Dy/Mch	210.00Mtr	
8	Dyeing and Finishing(FF)				
	Semi Mechanized	178	-- --	10.00 Mtr	10,000
	Mechanized	115	-- --	90.00 Mtr	23,000
	Sub Total	293	-- --	100.00 Mtr	
9	Export oriented RMG	4000		20.00 Doz	1,90,000

Source: BTMA Annual report–2005

Types of textile industries and value added chain

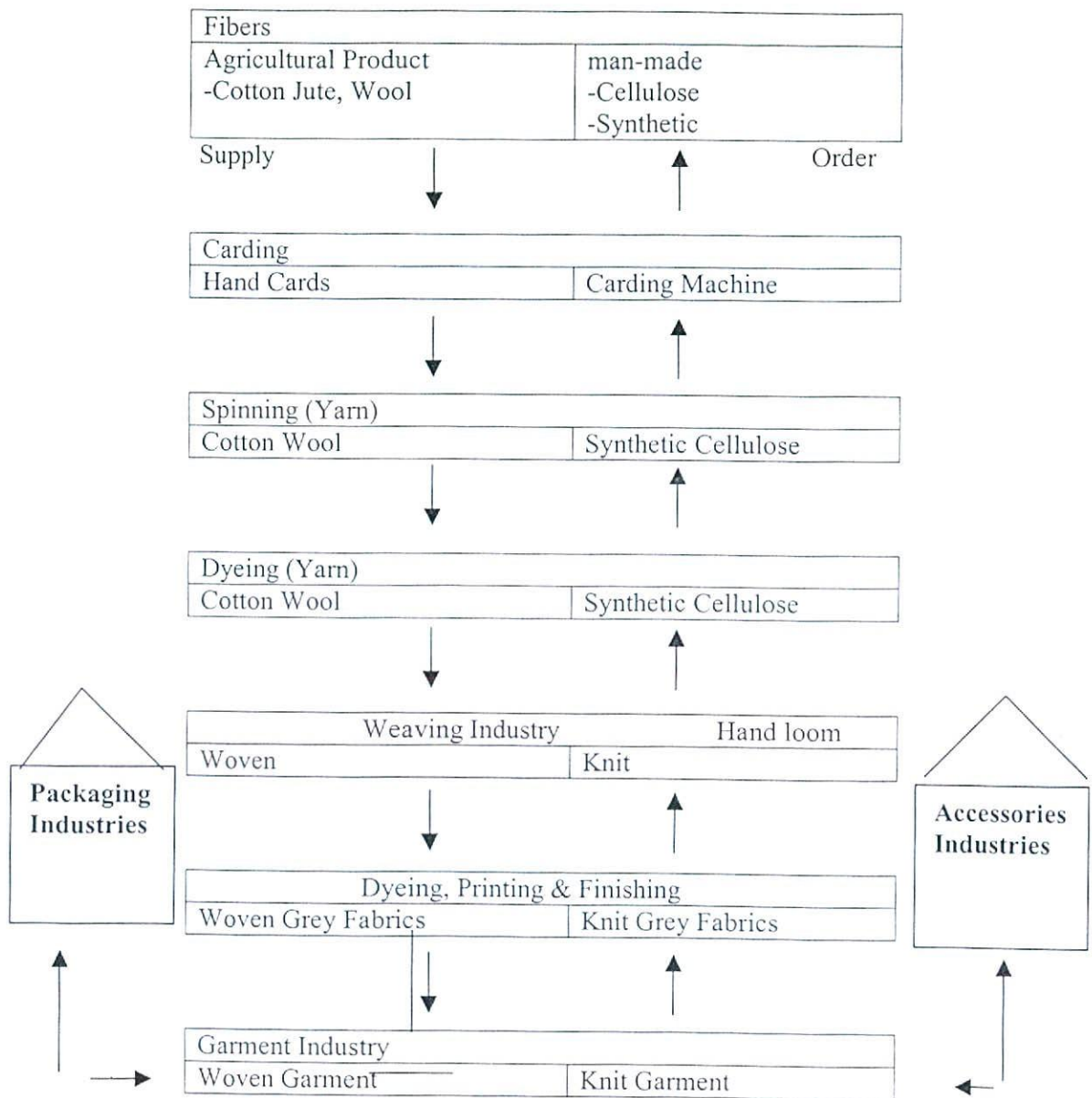
Mainly, there are three categories textile manufacturer under textile industries they are: yarn manufacturers, Grey fabrics manufacturer and textile product, processors spinning mills produce yarn, weaving mills produce fabrics and textile product processors produce finished fabrics through dyeing printing & finishing process, the

following table-4 and table -5 shows the categories of textile industries and value added chain system from raw cotton or man made fiber to finished textile product.

Table- 16: Types of textile industries and value added chain

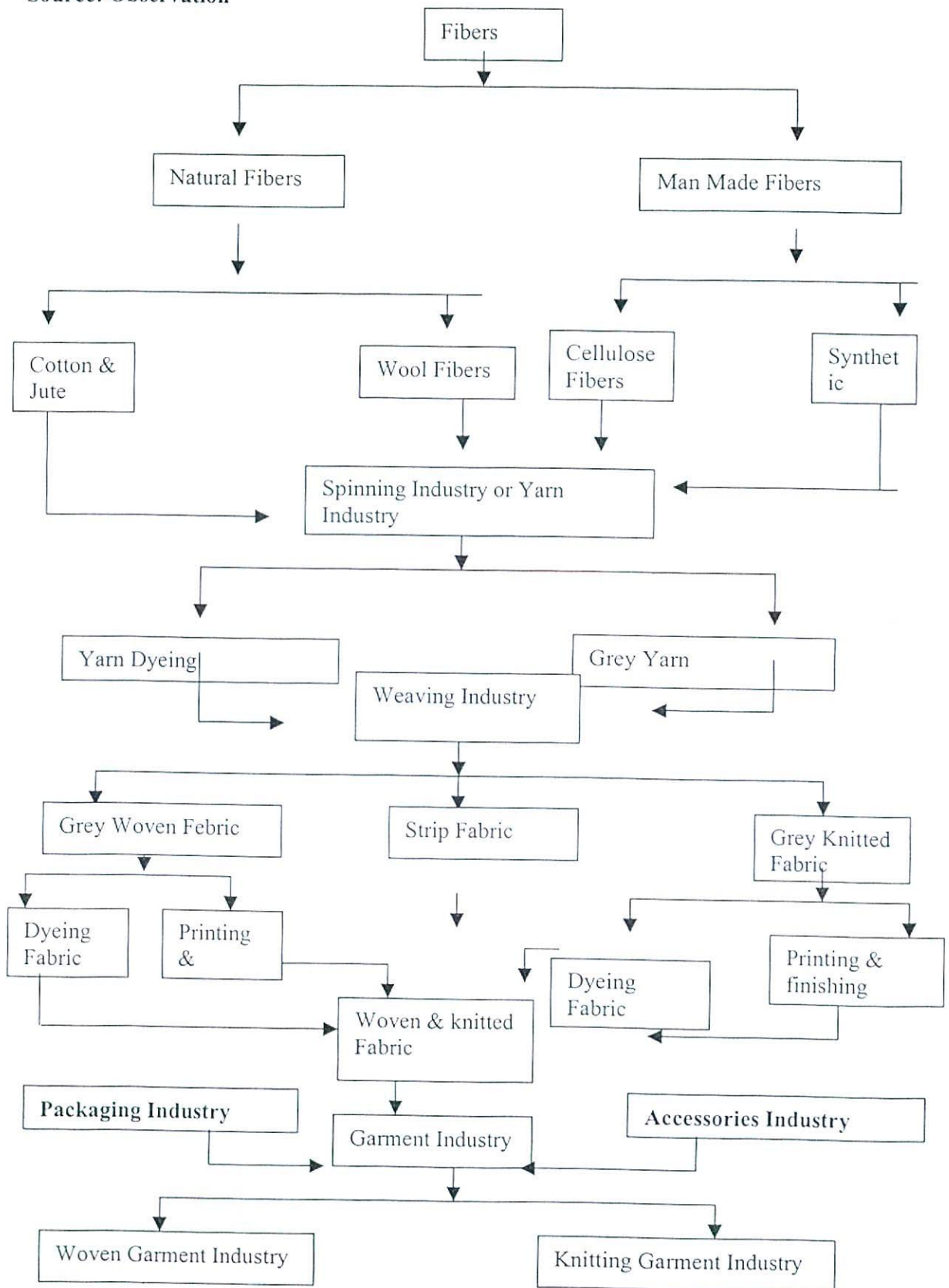
Categories	Textile Mills	Product	Number of Mills up to 2004
"A"	Spinning Mills	Yarn	185
"B"	Weaving Mills	Grey/Strip fabrics	404
"C"	Textile product processing mills	Finished textile product	102

Total Textile Mills 691

Figure - 2: Types of Textile Industry and Value Added Chain

Source: Researcher's Observation

Figure – 3: Structure of Backward Linkage Industries of Bangladesh Garment Industries at a glance
Source: Observation



Some Technical Aspects in the Field of Textiles and Clothing

Carding:

When cotton or wool is imported or procured from the field, after opening and cleaning the bundles, fibers are disentangles straightened an, and laid parallel with each other, This process is called carding. There are two kinds of carding process:

Hand -cards

Carding Machine

Comber Machine, Ravings Yarn

After carding is completed, this fibers need to reprocess in a machine, called comber machine, in order to generate combed yarn where the short strands are taken out. Then it is processed into silver, the silver is then supplied to the dram frame, and speed/roving frames, Here sliver are twisted to shape what is called roving. Finally, roving is placed in spinning frame in order to exert further twisting and drafting to produce yarn, which is again spun around a bobbin or cone with the help of auto corners or cone winding/ reeling machines, the yarn is then packed and marketed.

Spinning:

The spinning of wool, cotton or flax was initially, carried out by the spindle and distaff, The distaff, a stick about 3ft long, was held under the left arm, and the fibers of wool drawn from it were twisted spirally by the forefinger and thumb of the right hand. As the thread was spun, it was wound on the spindle spinning refers to the process in which fibers are drawn out into yarn and a twist is initiated. Later, this yarn is used in weaving as either warp (longitudinal threads) or weft (interlacing the warp threads) to produce cloth.

Spinning Jenny:

Spinning Jenny refers to a machine that "used eight spindles onto which the thread was spun from a corresponding set of ravings later developments on the machine enabled the number to be raised to eighty. This yarn was" suitable only for the fitting of weft"(the cross -thread of warp) as the same was coarse and lacked strength.

Roller Spinning:

A machine, which has "two sets of rollers which traveled at different speeds. This drew out a silver of wool to the right thickness before spinning it, By 1741 this machine, powered by donkeys, was being used in a mill in Birmingham"

Flax Spinning Machine:

Two men from Darlington, James Hargreaves and Thomas Pithouse, registered a patent for a new flax-spinning machine in June 1787 which was made up of a drawing frames with drums large enough to roll out long flax fibers and a spinning frame with four spindles

Handloom Weaving:

This method involves interlacing one set of threads of yarn with another, The warp threads are spread out lengthwise in the weaving loom while the weft, the cross-threads, are woven into the warp to make the cloth. This has been stated in proceeding sections as well.

Source: "A guide for the planning, design and implementation of, waste water treatment plants in the textile industry.

Geiger, Mercerizing:

Woven cloth, which has not been processed, further is called Geiger. But when cotton fabric is treated with cold concentrated sodium hydroxide to attach seem and to improve the water absorption, it is called mercerizing

Size and Sizing:

Size refers to a coating applied to warp yarn to improve its weaving efficiency while sizing is the application of size to the warp yarn, Again, sizing is applied only in the woven sector of the industry.

Grey:

The initiated stage of fabric produced by using looms or knitting machines is called gray. The term Gary 'Grey' indicates that the fabric has no color at this stage.

Knitting:

As an alternate to looms, circular knitting machines are used for knitting for making fabrics. These machine employ needles fed with yarn that run in an up and down motion and knit interlocking arrangements of yarn.

This knitted fabric is much softer and more flexible than that produced on looms,

Dyeing, Printing, Finishing:

Grey fabric pass through a process called the batch method 16 (scouring, bleaching and dyeing)

Scouring involves the treatment of grey in chemical solutions to take out the size, natural facts, waxes, proteins, and other impurities, as well as to bring about the fabric hydrophilic, i.e., it no longer repels water. The next process is bleaching which is vital to turn the cloth a clean white. Bleaching could be accomplished either "with dilute hypo chloride solution at room temperature or by using hydrogen per oxide solution at elevated temperatures, usually 80 to 90 degrees Celsius. The latter method usually results in better and longer lasting whiteness, however it is the more expensive of the two methods.

Dyeing and shrinking:

After bleaching, the scoured cloth is dyed, and then printed on: Printing is carried out using perforated rollers that allows certain chemicals and colors to diffuse through the holes" then, fabric is "washed, soaked in chemicals under elevated temperatures for color fixation and then

Washed again. In case of knitted fabrics, scouring, bleaching, or dyeing processes are ended by a jigger machine when the fabrics are loaded on it, Now the fabric placed on de watering or de-twisting machine which removes water from the fabric, Again the fabric passes through a shrinkage tensionless driver for drying, shrinking, and relaxing the knitted fabrics, compacting as the final process before the fabric is prepared for use, Here, the fabric is "steamed and ironed between a roller assembly " after which it is folded and for marketing and RMG industry utilization .

Silk:

Silk filament 18 is a fine, tough, elastic fiber produced by caterpillar called bombyk mori its scientific name, the entire process

Fellow's earth:

It is one kind of clay, which is used, in the early woolen industry to eliminate grease from wool fibers. It used for cleaning newly woven cloth and making it thicker."

Wallowing:

This refers to the breaking up of cotton and removing impurities, in earlier times, after arrival at the port when cotton formed hard matted lumps being stored on the boats for long time sailing, This cotton wool also contains seeds and dirt

Wallowing Machine:

This machine had a large drum filled with iron spikes, which loosened and separated the fibers, and powerful fan, which blew away the dust and other impurities through a large pipe.

Flying Shuttle:

Over the centuries handloom weaving had been carried out by "the shuttle bearing the yarn being passed slowly and an award from one hand to the other: obviously, this was not comfortable job rather an arduous one. Such difficulties were removed by the invention of flying shuttle by John Key in 1733 that dramatically increased the speed of this process. A weaver, therefore, using keys flying shuttle could produce much wider cloth at faster speeds than before.

Polymerization:

Polymerization is the process where molecules are jointed together to form small building blocks of matter and the length of the chain of such joining is called the degree of Polymerization:. When molecules of the same compound combine to form long chains, it is called simple Polymerization: and it is composed of long chains glucose molecules combined to form cellular when two or more different kinds of molecules combine into a chain, each capable of polymerization, wool and silk are co-polymers composed of many different amino acids protein molecules. Again they

would call it hetero polymerization, when, two or more different kinds of units combine, but not all of them are capable of polymerization. For example, synthetic fibers. Synthetic fibers, in addition, can be simple polymers and copolymer.

Automation and Computer Aided Design (CAD)

CAD is relevant to the industry specific design system where computer is used as a tool. In today's world, CAD is used to design anything from an aircraft to knitwear and it was launched in textile and apparel industry in the 1970s²² computer only expedites the cloth making, color changing, motif manipulation etc. Thus, automation refers to such labor saving process with the aid of CAD. Automation is also attributed to improved quality with lesser time.

Spinning position of textiles industries in Bangladesh

The installed capacity of the spinning sub sector was 1.4 million spindles. At present it has been estimated 4.2 million spindles in 2004(Annual Report BTMA Page24) this instance shows that the production capacity of the spinning sector is gradually increasing. The present annual production capacity is 500 million kegs. High import duty on textile machinery and their spare parts are the principal hurdle that stands in the way of importing new machinery allowing them to be out dated. Moreover there is a "shortage of techniques in this field resulting in both very expensive and substandard repairs, "frequent power failures, shortage of raw materials high import duty on raw materials and high percentage of wastage constitute the ground for the low output of the spinning sub sector.

At present our installed capacity is about 4.2 million spindles and about 2.00 million bales of raw cotton is used of which 90% is imported, Mostly raw cotton is imported under the laws & bye laws of the Liverpool cotton association (LCA). But due to inadequate knowledge in procuring raw cotton under LCA rules, sometimes member mills suffer a lot. As we all particularly the spinners are aware that cotton trade is a very complex trade in nature, lack of detail knowledge about a standard cotton contract, member mills may have problems in execution of the contract which sometimes leads to dispute, But the provision of arbitration for impartial settlement of

disputes in the shortest possible time as outlined in the charter of functions of the LCA could not be implemented at times due to various factors. Arbitration of the Liverpool cotton association is expensive and time consuming also. In some cases it was opined that arbitration of the LCA might be biased. It also argued that arbitration awards were not implemented because the awards

Were not based on acceptable arbitration procedure. Upon an invitation of International cotton association (LCA) formerly Liverpool cotton association. The chairman attendee a seminar on November 2, 2004 wherein he suggested in his speech to spinners association:

Allow membership to spinners association so as to have bigger representation,
Arbitration board to be reconstituted with members from buyers and sellers country and one to be inducted on the recommendation of ICA (International cotton association)

Arbitration to be held in the country of buyer

Compensation to be paid due to supply of inferior quality cotton should be fixed should be fixed on the basis of nominal rate fixed by ICA from time to time

Shippers must ship the consignment of cotton within the stipulated date as mentioned in the letter of credit. Delay in shipment shall not be entertained. Without prior approval of the buyer for extension of shipment date.

A committee is formed with members from various import and exporting countries to review the existing rules and procedures and suggest reformulation of new rules due to changes that are being taken place in world Trade organization.

Memberships fees should be reduced to attract more individual members

The chairman of BTMA feels if the above suggestions are considered dispute in cotton purchase will come down and will make the ICA more effective and result oriented.

Weaving sector

The production of gray fabric depends on the yarn supply availability, the short supply of spinning sub sector is also negatively linked to the amount of gray produced. The yarn gap is filled by imported yarn, estimated near about 3.15 billion meters of gray per year. For which the subsequent stages have to suffer more in transportation, import taxes etc, resulting in a more expensive and product further, the weaving sub-sector lacks, organization and coordination because small scale manufactures remain scattered all over the country, which breeds" replication and a lack of specialization

Strength of packaging and Accessories Industry:

The packaging and accessories industry is an important value added partner of our export oriented garment industry. This industry is fondly capable to meet the demand of our RMG industry (Ready made Garment) .In spite of this achievement, some packaging and accessories items are importing to satisfy buyers expectation. In this sector, as a backward linkage industry, we have no tension to face post MFA market position.

A large number of manufacturers under BCCAMEA (Bangladesh corrugated carton & accessories manufacturers & exporters association) are producing packaging and accessories

Products, such as button, elastic, carton, label, ploy, PP brand, sewing thread zipper, padding, embroidery, drawstring, quilting, resin, etc.

BCCAMEA' Mission is to create a better future for the members and to strive hard towards contributing specially to our export oriented garment industry. The association is committed to foster conducive productive environment and to build up mutually rewarding relationship with the members of the associations and the society at large. The organization strongly believes that we are accountable to each of the constituents with who interact, namely, its distinguished members, business associate employees, regulatory bodies, government and all other concerned with the association.

Bangladesh corrugated carton & accessories manufacturers & exports association (BCCAMEA) started its operation in the year 1989. The association is the prime organization to safeguard the interest of carton & accessories manufacturers & exports of the country. BCCAMEA represents all export oriented corrugated carton & accessories manufacturers of the country. Basic information about the association are given as under:

Table no – 17: Growth of BCCAMEA Membership

Item -Wise Member

Button	5
Carton	388
Drawstring	6
Elastic	29
Embroidery	1
Manager	3
Interlining	2
Label	12
Multi items	53
Packaging	8
Padding	3
Ploy	58
PP Brand	1
Quilting	1
Resin	1
Sewing thread	24
Zipper	4
Total	599

Table-18: Geographical Dispersion of member factories:

District	No
Barishal	1
Chittagong	87
Dhaka	346
Gazipur	64
Mymensing	1
Khulna	5
Narayangonj	93
Tangail	2
Total	599

Present position of our plastic products as a Backward Linkage industry of garment Industry:

The plastic industry is an important background linkage industry of our export Oriented ready-made garment industry in Bangladesh. At present this industry contributes around 16% to GDP. 31 plastic bag, button, hanger, packing material are producing under this industry. Especially inner packing materials are manufacturing for all garment packing. It is quite essential for export purpose and it will remain as long as Ready -Made- Garments export exists in Bangladesh. This bags a readymade of PP, LDPE, LLDPE. So 100% backward linkage industry of garments are consuming these plastic goods the raw materials of these products are importing from countries like Singapore, Malaysia, Thailand, India, Saudi Arabia, Korea and Indonesia and etc.

Government's exports policy and its support play the most important role in the development of Export of industrial products, the most promising export sector of Bangladesh, the garment industry, scored its success due to the supportive policy, which allowed bond facility and back to Back L/C facility to the sector. Many folds with could increase the export growth of plastic products in Bangladesh.

Supportive Government Policy.

The systematic and steady growth of plastic industry in Bangladesh started from the year 1980.

During the year 1992 government declared a ban on further expansion of polythene industries for environmental reasons and encouraged these industries to move to export market. A new policy was then formulated to allow Bond facility to the plastic and polythene industry as a Backward linkage industrial sectors, within a short period many new industries were set up a Backward linkage packaging industry to cater the need for garment and other export sectors of Bangladesh.

The overall growth of export of plastic goods during the last decade from Bangladesh was faster than the recognition it received. By the end of the year 2000 about 400 factories were involved in the deemed export of plastic goods as packaging materials.

for almost all the exportable items of Bangladesh. During this period several factories were also established for production of directly exportable plastic items.

The deemed export factories that mainly supply the accessories items for our garment export has successfully ensured nearly 80% of the requirement of our garment industry. Besides its support as backward linkage for garments industry, it is worth mentioning that nearly all the Plastic packages used for our exportable items are now being manufactured by these deemed exporters of plastics. This in turn has been fetching an export earning of around taka 500 cores each year.

There was a notable growth in direct export of plastic goods from Bangladesh during the last decade several factories of world standard with ISO certification was set up during this period. The export volume of these factories averaged more than taka 100 corers each year. Bangladesh has had notable success in the export of polythene films, polythene bags, plastic have gars, toys, woven sacks and several other items.

The industrial growth of plastic industry for export was quite rapid during the years 1995 to the year 2000. However, the anti polythene move by the environment ministry had a deter mental impact on these industries and its growth. While the motive of the environment department was to ban the use of polythene shopping bags, the ban finally included all kinds of polythene and film plastic including the industrial wrappers. The total ban on polythene had a direct impact on the image of the plastic industry in general. The growth of this sector thereby suddenly started to show a downward trend, Overseas buyers has been pressing for the price reduction with the pretext that Bangladesh has spare capacity for plastic film s production due to the ban on the polythene use.

The withdrawal of Bank guarantee and an incentive through cash subsidy for direct exporters of Plastic will guarantee a rapid growth of the export of plastic items from Bangladesh.

The prospect of export of plastic gods from Bangladesh is unlimited. We have already established ourselves as a genuine exporting country for plastic; we have ready

market abroad for plastic as all the buyers of garments are related to the chain departmental stores who buy huge quantity of plastic items.

Since our future economy is expected to be dependent on the exploration of gas and oil, we are bound to have our own telephone factory in Bangladesh to manufacture raw material for plastic well formulated policy and generous support by the policy makers can turn the plastic sector industry as one of our highest foreign exchange earners.

Problems of the Primary Textile Sector

There are some problems of the Primary Textile Sector (PTS) in Bangladesh. A propaganda exists between the primary textile sector and Export oriented garment industry. Actually it is not a conflicting interest of them. In fact, the success or failure of these sub-sectors is inter-related. PTS suffers from a number of issues that are hampering the growth and development, deterring the PTS to play the desired supportive role to RMG sub-sector. Those are given below:

- The entrepreneurs are discouraged to invest in PTS due to very high debt-equity ratio.
- The long-term interest rates on loan for new industries in Bangladesh are very high (Bangladesh 9-12 %, Pakistan 5%, India 6%) compared to competing countries.
- Till date no fund for assistance to textile sector has been created.
- Leakage from Bonded warehouses and smuggled fabrics deter the growth and development of PTS.
- Due to provision of subsidy and other incentive at different stages of production process by the competing countries, their PTS Products are more competitive than Bangladesh in the international market.

Strength and weakness of textile industry

In recent years textiles as a whole has become one of the most talked about issues in the trade circle of Bangladesh. We all know that the Multi-fiber Arrangement (MFA) was put in place to protect the domestic markets of the developed countries in textile trade. However, this protectionist policy is going to be phased out with the beginning of 2005. With the phasing out of MFA, the global textile trade will encounter severe competition from many countries, which are strong and developed in yarn and fabric manufacture. Different studies have indicated that with the phasing out of MFA, the market for textiles and clothing will increase. But this increase will confine to garment with lower fabric movement.

Therefore, supply sources will reduce, ending preferred or reserved sources. In such an environment only the competent players will survive, because most of the buyers will prefer to source with full value chain. A study undertaken by international textile and clothing Bureau reported that during the last five years high growth rate in apparel exports were achieved by only those having backward linkages. On the other hand countries with strong apparel trade could not achieve any significant growth due to poor backward linkages. At present textile industry is the largest manufacturing, sub-sector in Bangladesh. Which provides employment to about 4 million workforce including RMG, accounts for 5% of our GDP and 40% of manufacturing value addition and 76% of total foreign exchange earnings.

We all are aware that textile sector before liberation was mainly an import substituting industry. It entered the export market of RMG and knit products in 1977 and achieved an unprecedented growth during the last 2 decades. This phenomenal growth would not have been possible, had there been no support from primary textile sector (PTS). The PTS sector is presently capable of supplying around 90% demand of yarn and fabric of knit sector and 25% woven fabrics for export oriented RMG units. Besides this significant quantity of home textiles are being exported with local fabrics to us & EU market.

This has been made possible due to dynamism of our entrepreneurs and proactive policies of the govt. In a global market of US\$350 billion, if we are to sustain and

grow, we need to improve our competitiveness in terms of price, quality, variety and diversity in products and markets. The most important factor to achieve competitiveness depends upon how best we could develop our domestic efficiency and backward linkages.

It is known to all that dismantling of quota regime will offer both opportunities and threat to developing countries. Countries with strong backward linkage will gain out of dismantling of quota regime, whereas countries with poor or weak backward linkage will feel the pinch of the abolition of the MFA. Therefore, setting up backward linkage industries in Bangladesh with complete supply chain is the only option to support our RMGsub sector to sustain in the post MFA era. At the same time we should also try to move the production of high technology based higher value added products and take advantages of the cheap labor. The apparel industry is a buyer-driven commodity chain, spanning from fibers to yarn, to fabrics to garments again indicating strong backward linkage to RMG sub sector.

In 2005, the process of trade liberalization which started in 1995 with the signing of the WTO agreement on textiles and clothing (ATC) will have been completed. It will bring about a new world order in textiles trade since large textile nations like China, India or Indonesia will no longer be confronted with quantitative restrictions, while exporting to EU or US. In such an environment our survival depends on our ability to constantly improve our competitiveness through innovation, reduction in lead time, increases use of information and communication technologies, clear focus on products with high quality and fashion content, improved and cost effective performance of the service sectors in addition to development of PTS.

We very often hear that in Bangladesh local yarn and fabrics are uncompetitive and as such in the export market our products, lose their competitiveness due to higher price of raw materials. However, this type of generalized comments might not be tenable, if we compare our position with our competitors. PTS imports raw cotton at prices which include sea-freight but our competitors (India, Pakistan, China) are cotton produced so, they get cotton locally. Their cotton production is heavily subsidized (low interest rate, subsidy in seed procurement, fertilizer, electricity etc). However, in Bangladesh we are at a disadvantaged position in terms of loan, power,

road, port facilitation, electricity etc. still the difference between imported cost of yarn and locally produced yarn is around 10 to 15 pence. If other charges are added to import cost (bank charge, port charge etc) the difference may not be there at all. Currently some sorts of financial and non financial benefits are given to export oriented industries, If those benefits are made available to local textile mills they will be able to adequate price with our competitors.

Weakness of public sector textile mills

Textile industry of public sector is benefited from certain privileges for instance, government funding, Regrettably "factories in the public sector are not well supervised" Frequent changes of officers, lack of personal interests of these officials in the factory resulting in negligence in their responsibility, lack of maintenance of the equipment, misappropriation of allocated money through corruption and poor accounting etc. are the set backs of the public sector textiles and clothing plants in Bangladesh.

Strength and weakness of handloom sector

Our handloom sector consists of a rural group of textile manufactures on the other hand, a number of organization are producing Fabrics named gramini chack, Khaddar Jamdani , tangile sharee etc. At present, BRAC (Bangladesh Rural Advancement committee) is employing rural women for this purpose. The handloom industry, in total generates employment for much population in the country. It also makes available a large portion of the fabric required by the local market. However, the entrepreneurs in this sector suffer from inferiority of their machinery, mostly, due to their narrow width, means that the fabric production is slow, and shortage of the quality needed for export.

Chapter- Five

Productivity and Impact of Backward-Linkage on Productivity

- **Introduction.**
- **Relationship between Backward-Linkage Industry and Productivity.**
- **Benefits of Strong Backward-Linkage.**
- **Production Cost Differences Between Composite Textile and Independent Garment Factory.**
- **List of Sample Respondents.**
- **Cost Differences Between Composite and Independent Garments of per Dozen T- Shirt: (Average Size, Average color and Average dyeing and printing Costs)**
- **Impact of Well Established Backward-Linkage on Production cost at Woven Sector and International Competitiveness.**
- **Production Cost of Independent Garment Factory.**
- **The Wage- Productivity Relationship.**
- **Major Factors of low Productivity.**
- **Determinants of Productivity.**
- **Productivity Improvement Program by SEDF, PIP**
- **Technical Development of Primary Textile.**
- **Cost Structure of RMG Industry.**
- **Using Technology and its Production.**
- **Job Quality of RMG Industry.**
- **A Four Stages Supply Chain of Woven Sector.**
- **A Three Stages Supply Chain of Sweaters Sector**

Introduction:

The export-oriented garment industry has entered into the international competitive market under the provision of WTO. In this new changing global business environment, to survive this industry Bangladesh has to increase productivity. Production cost and quality product are the main tools to face the international competition. Higher productivity reduces production cost. Where the competitive products are same in terms of quality and design, low price is there only one competitive advantage / to win this advantage, Bangladesh has to focus on improving productivity. Productivity means to maximize the inputs and outputs ratio that means the efficient use of labor technology, raw materials, capital items and other elements of production. During the quota-imposed period, cheap labor was the only one comparative advantage. This industry has emerged based on cheap labor in Bangladesh. Among the garment exporting countries, the labor cost is the cheapest in Bangladesh. But recent labor movement for higher wages is a new threat on this comparative advantage. On the other hand lack of strong and well established complete supply chain to support this industry, the fabrics importing cost and production cost are higher than nearest competitive countries.

The productivity of these countries is higher than Bangladesh. So, that cheap labor advantage is forfeiting to higher productivity. Long lead-time is another disadvantage due to importing time through back-to-back L/C. In this contest Bangladesh is losing cheap labor advantage. The crucial factor is to win comparative advantage to reduce production cost. This is why, Bangladesh has to increase productivity and establish a complete supply chain. Higher productivity at every stage of a complete supply chain also reduces production cost. So strong backward linkage industry is needed to improve productivity. It ensures efficient use of labor, capital, raw material and other expenses. On the basis of above discussion, Bangladesh has to more emphasis on the relationship between backward linkage industry and productivity.

Relationship between backward Linkage Industry and Productivity

Productivity depends on efficient use of factors of production. The major factors of production are land, labor, capital and organization. Each stage of a complete supply

chain, if factors of production are effectively used, the performance will be higher. Well-established backward linkage or complete supply chain increase value addition than the labor capital. Capital items and overall productivity are increased. Because capital productivity is equal to value addition divided by capital. On the other hand labor productivity is equal to value addition divided by labor. Strong and complete supply chain ensure uninterrupted raw materials supply to garments factories reduces labor cost at every stage of production chain. It reduces long lead-time. The given equation and supply chain is shown the close relationship between backward-linkage industry and productivity.

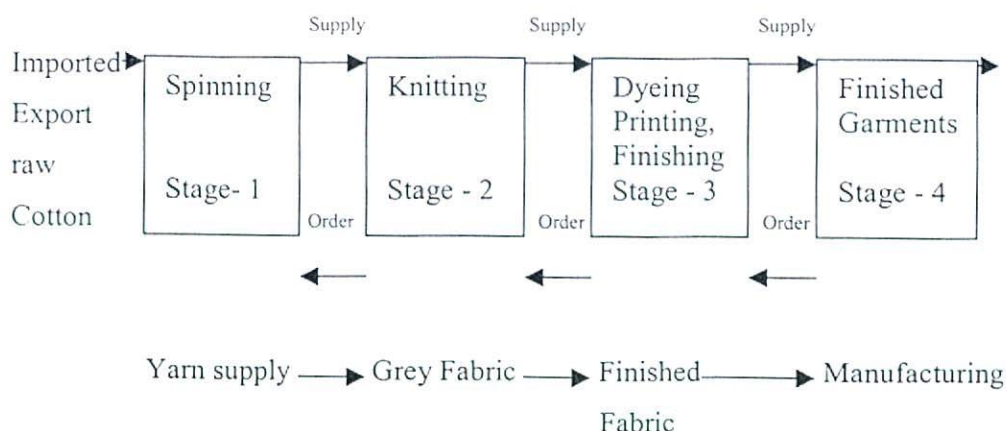
The relationship between Backward-Linkage Industry and Productivity.

A complete supply chain of raw materials is needed to ensure efficient use of production factors. Productivity means the efficient use of inputs to increase production. Productivity can be defined from this viewpoint in mathematically:

$$\text{Productivity} = \frac{\text{Effectiveness}}{\text{Efficiency}} = \frac{\text{Outputs}}{\text{Inputs}} = \frac{\text{Value of production}}{\text{Cost of Inputs}}$$

A complete supply chain represents a strong backward linkage industry. Through analyzing the above definition of productivity, it is easily measured the relationship between well establish backward linkage and productivity. The supply chain with related stages are given below for fully understand the relationship.

Figure no – 4: A Four Stages Supply Chain of Knitting Sector



In this stage raw cotton supplies from agriculture sectors of CIS, India, China and other countries who have weak textile and clothing sectors. Bangladesh is capable to supply only 5% of its total consuming and rest 95% raw cotton imported at C&F price quotation from country abroad. On the other hand, gray or dyed yarn is also imported. In the given figure of supply chain, the business performance of each stage is dependable of related stage as raw materials of knitting stage. Knitting stage supplies its gray fabrics to dyeing printing and finishing stage and dyeing stage is supplying its finished fabrics to knitting garments manufacturing stage. This stage is the last stage of the supply chain produces finished garments for export. Each stage of the supply chain is adding value. Thus a strong backward linkage industry increases total value and the overall performance of these stages together with increase productivity. On the above discussion it is identified that there is a strong relationship between backward linkage industry and productivity. Strong backward linkage industry helps to increase productivity and win complete advantage though producing production cost. In this way, other sectors like woven and sweaters (knit) sectors can win comparative advantage in the global market. The backward-linkage industries of these sectors are given below. The backward-linkage industries

Figure no – 5: A Four Stages Supply Chain of Woven Sector

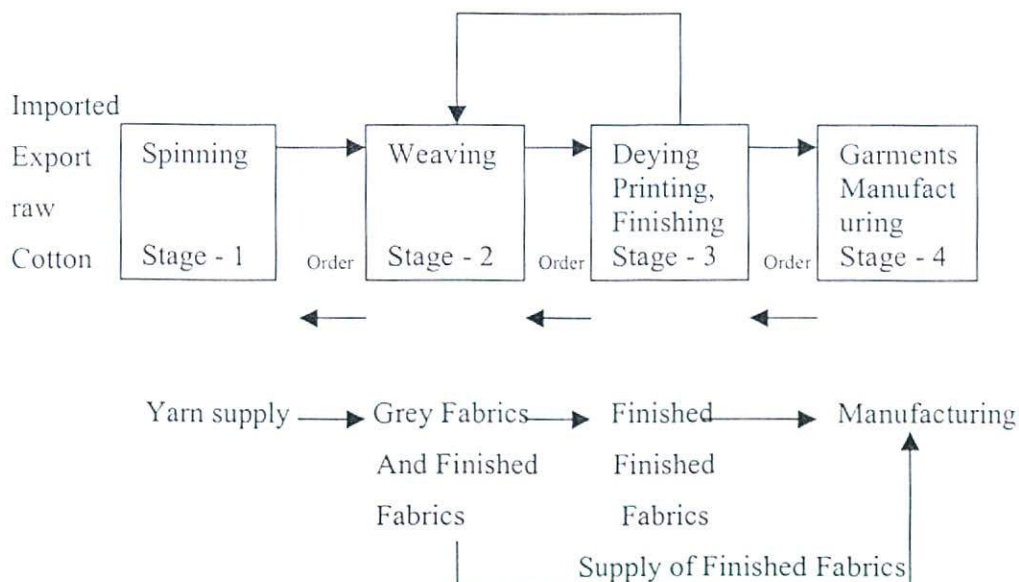
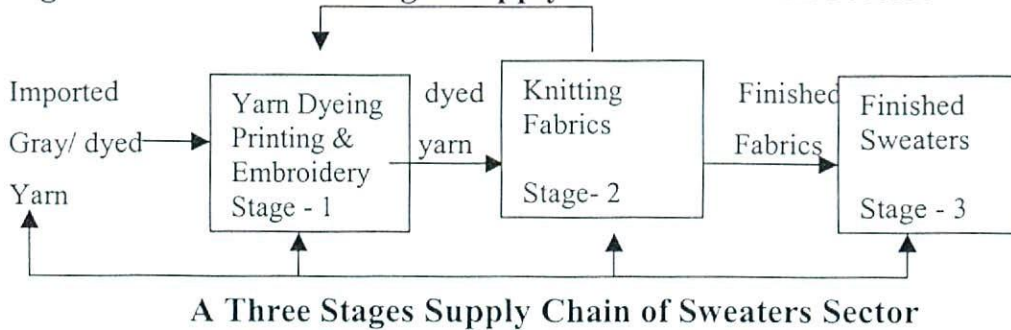


Figure no – 6 : A Four Stages Supply Chain of Woven Sector.



Benefits of strong Backward-Linkage Industry:

1. Short lead-time
2. Low production cost
3. High productivity
4. Competitive advantages
5. High value added

Production Cost Differences Between Composite Textile and Independent Garment Factory:

Composite textile and clothing unit is a high value added process of production. Earlier it has been defined that well-established backward linkage industries reduce production cost through increasing productivity and maximize the profit. In this contest, a survey has been conducted over telephone interview on ten production units of different levels of textile and clothing about per dozen-production cost and profit. They are also asked the production cost differences between composite and independent garment industry. The list of ten production units is:

Table no- 19 :List of Sample Respondents:

No	Name of the Organization	Address	Type of Organization	Name of the Respondents
1	Texttown Limited	374, New DOHS	4 Stage Knit Composite	Mr. Anowar Hossain
2	Multifabs Limited	Kashimpur, Nayapara, Gazipur.	4 Stage Knit Composite	Md. Assaduzzaman Sheikh.
3	New Rakhi Textile Mills	351, New DOHS	2 Stages Knit	Mr. Abdul Rob
4	Abanti Colour Textile Ltd	SA- 646, Fatulla, Narayanganj	3 Stages Knit	M. H. Aslam Sunny
5	A J I Apparels industry Ltd.	25/2 Shaha Alibag section-1 Mirpur- 1	Independent Woven	M. A. Jalil
6	A R A Garments & Textile Ltd.	39, Kawran Bazar, Dhaka	2 Stages Composite Woven	Mr. Anwarul Kabir
7	Adeeba Apparels Ltd.	House-19, Road- 13/C Block- E, Banani	Independent Woven	Mr. Ziaul Amin
8	Alif Apparels Ltd.	21/22, Babar road /Block- B Mohammadpur	Independent Woven	Mr. Azizul Islam
9	Adnan Sweaters Ltd.	H-19, R- 13/C, Banani	2 Stages Sweaters	Mr. Ziaul Amin
10	AB Sweaters Ltd	67, Naya Paltan Dhaka	2 Stages Sweaters	Mr. Mahabub Alam

Cost Differences Between Composite and Independent Garments of per Dozen T- Shirt: (Average Size, Average color and Average dyeing and printing Costs)

Yarn require for per dozen T-Shirt = 3.21 Kg (Average count & Average size)

Fabrics require for per dozen T- Shirt = 3.21 Kg (Average count & Average size)

Spinning cost per Kg gray fabrics = 2.75 US\$ (Average)

Gray fabrics cost for per dozen T- Shirt = $(3.21 \times 2.75) = 8.83$ US\$

Finished fabrics cost for per dozen T- Shirt = (gray fabric 8.83 + dyeing charge 7.67 US\$ = 16.5 \$) Average.

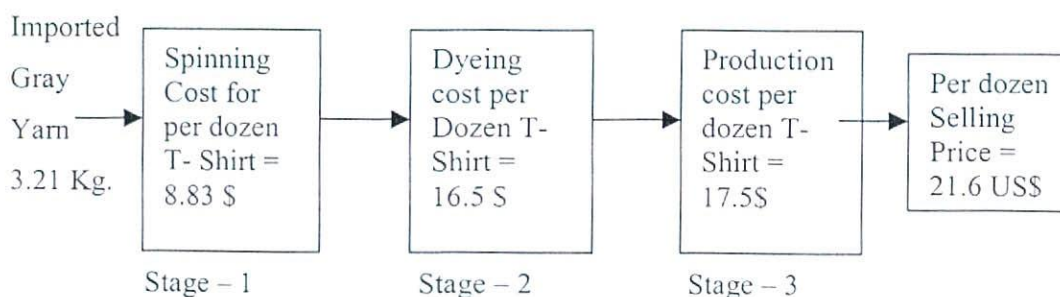
Per dozen materials cost= (Finished Fabrics 16.5\$ + Accessories & Packaging 1\$)=17.5 \$

Per dozen Selling Price = 21.6 US\$. (FOB) price quotation.

Making Charge M C Price = $(21.6 - 17.5\$) = 4.1$ US\$ (Average)

Figure no - 7

Costs at different Stages of a Composite Textile of per dozen T-Shirt



Per Dozen M.C Price = $21.6 - 17.5 = 4.1$ US\$

Imported Finished

Fabrics for per

=

Dozen T- Shirt price

= 18.5 US\$ (C&F) + 1% caring cost

$(.185) = 18.69$ US\$

Fabrics cost
18.69 +
Accessories &
Packaging 1\$
= 19.69 US\$
(Total
Manufacturing
Cost)

Per dozen selling price

21.6US\$

MC/Gross profit =

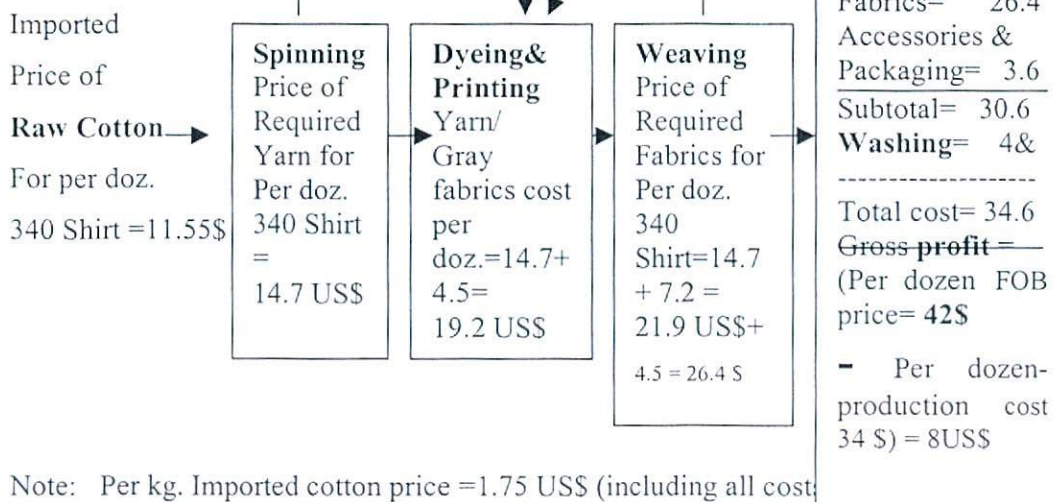
$21.6 - 19.69 = 1.91$

US\$ Here, $4.1 - 1.91 = 2.19$ US\$ is the benefit of well-established backward-linkage or composite textile and clothing.

Impact of Well Established Backward-Linkage on Production cost at Woven Sector and International Competitiveness.

Lower production cost depends on productivity and cheap material costs. Cheap material cost and productivity depends on uninterrupted supply flow of raw materials. So low production cost depends on well-established backward-linkage industry. The flowing figure shows the cost differences between strong backward linkage textile and clothing industry and imported raw materials oriented industry

Figure no - 8



Note: Per kg. Imported cotton price = 1.75 US\$ (including all cost)

Per kg. Cotton can produce .9 kg. Yarn

Cotton required for per dozen Shirt and its price = 6 kg. + .6 kg. = 6.6 kg x
1.75 = 11.55 US\$

Per kg. Yarn can produce 3 mtr gray fabrics.

Fabrics required for per dozen 340 (Men's Shirts) = 18 mtrs

Yarn required for per doz. 340 Shirt and its price = 6 kg. X 2.45 \$ = 14.7 US\$

Dyeing and printing charge of per dozen shirt = 18 mtrs x .25 \$ = 4.5 \$

Weaving Charge for per mtrs = .40\$, Price of weaving charge for 18 mtrs =
7.2 \$

Figure no -9

Production Cost of Independent Garment Factory:

Imported fabrics	C&F price of per dozen shirts at Ctg. Port = 30 \$
Cost for per dozen	Accessories and Packaging cost for per dozen = 3.6
340 shirts = 30 US\$	Washing cost = 4.0
	Total cost = 37.6 \$, Gross profit = 42\$ - 37.6 \$ = 4.4\$
	The benefit of Backward linkage = (8.0-4.4\$) = 3.6 US \$

The Wage- Productivity relationship

The relationship between wages and production may be negative or positive. There is an argument that low wages is the result of low productivity of garment labor. This argument is not true. This type of relationship holds when there is full employment economy. But the economy of Bangladesh is not full employment economy. In this economy, there is excess supply of labor, wages will be low responsible for productivity level when labor has available job opportunities, they don't move to other industries. They bound to work hard there to earn more through overtime involvement. If, a factory allows wages on the basis of per unit production, and the wages is low, the labors try to earn more to survive their lives. In this case productivity will be increased. If the wages increased the labor will be able to earn some through less units- production. As a result, productivity will be reduced. So that wages should minimum to survive labor lives matching the on going price level. Recently, the labor movement for minimum wages to match their lives with t on going price level of the country economy. The new allowable minimum wages could not increase productivity. But it is proved that, wages on the basis of per unit production increase productivity on the other hand decent working environment and efficient use of labor increase productivity.

In Bangladesh perspective, the relationship between better working environment and labor productivity has been examined by Ahmed et,al,(2004). Where decent word is found to java appositve effect on the total facto productivity this result suggests that, the positive effects could out weigh the increased costs associated with the implementation of better working environment. The data used in Ahmed et al, (2004) did not include any garment manufacturing units and in fact, one might question the relevance of the finding to the RMG industry. The share of labor in the RMG value chain is very low and hence a rise in workers productivity might not result in substantial competitiveness gains for firms. For example, the integrated value chain analysis, undertaken by would Band (2005) shows that for a US\$ 1.28 T-shirt produced in Bangladesh, the labor cost associated with sewing and assembly accounts for only 4'7 percent of the entire value chain (i.e., US\$ 0.06). It can be calculated that, remaining all other things constant, a doubling of labor productivity (i.e. a 100 percent improvement in labor productivity) would result in the reduction of cost by just US\$

0.03, which is likely to have not much effect on the competitive position of Bangladesh in the world market. The local value addition of in Knit-RMG is considerably higher than that of woven products. Therefore, together with productivity gain arising from better working environment along with a reduced profit margin can give Bangladesh's knit products considerable competitive edge.

Major Factors of Low Productivity:

Very often it is reported that the reason of low productivity for unskilled workers, low level of their education. Most of the garment workers are less productive than other competitive countries. Not only that when Chinese workers, for example, are considered to be three times as productive as those of Bangladeshi workers, it doesn't show that only the differences of labor productivity. It could be that investment on capital is much higher in the countries with high productivity. In terms of annual average capital productivity, Bangladesh garment factories spend less than US\$ 1500 per worker in comparison with more than US\$ 4,000 spent by Chinese firms (World Bank and BEI, 2003)

Another factor is managerial efficiency or management productivity

Some firms are not in a position to move through value added items, or expand their current capacity of production because of their management inefficiency. This may have some implications for overall low productivity. Yet another factor needing to be recognized is that, despite the low levels of education, the scopes of training and skill development for factory workers are extremely limited in Bangladesh. Investment on workers, Still development is something that has not become a part of firms production and market expansion strategy.

Determinants of productivity

There are two major determinants of productivity:

- a) Qualitative Determinants
- b) Quantitative Determinants

Qualitative Determinants:

- ☐ High morality of workers
- ☐ Decent working environment.
- ☐ Easy working process.
- ☐ Proper communication
- ☐ Proper organizational Behavior
- ☐ Buyers' satisfaction.
- ☐ Organizational style and goodwill

Quantitative Determinants:

☐ **Increasing Production Quantity**

- ☐ Quality product
- ☐ Reducing lead time
- ☐ Reducing the rate of accident
- ☐ Reducing absenteeism
- ☐ Reducing number of inactive machine
- ☐ Use ideal time of machine reducing overtime.
- ☐ Reducing per unit fixed costs
- ☐ Reducing rate of workers turnovers
- ☐ Encourage the employees to provides their suggestions
- ☐ Reducing Number of complaints.
- ☐ Increasing profitability.

Productivity Improvement Program by SEDF (PIP)

BGMEA and SEDF have launched a Productivity improvement Program (PIP) with South Asia Enterprise Development facility (SEDF) for the Knitwear sector. The program is based on the need to improve productivity joy knit units to increase competitiveness in the post MFA era.

The objectives of the program are:

1. Analysis current processes at factories to establish the potential to improve and evaluate further opportunities of improvement.
2. Establish current performance levels against appropriate "But Practice"

3. Quality improvement potential in the areas of productivity, quality, technology & systems.

This program will cover two broad areas:

- A. Factory Diagnostics
- B. Factory technical Training

The factory diagnostics program would look into productivity & quality levels, which would be evaluated from two perspectives:

1. Evaluation of Historical Data
 - a) Productivity levels: in efficiency terms
 - b) Historical quality level data
2. On- site Evaluation: The focus would be on 1-2 sewing lines, along with cutting and finishing and would include the following:
 - a) Gap Analysis: Capacity Utilization, Method training, Manpower and Machinery
 - b) Technology levels: Evaluation to assess suitability for the product profile being manufactured.
 - c) Human resources levels: Evaluation of labor utilization, training, absenteeism & turnover.
 - d) Financial Analysis: Cost per SAM, cost per machine.

The technical training program would be a follow up to diagnostics exercise, where training would be conducted at the factory site for relevant staffs, based on diagnostics findings. Training of personnel will be conducted so as to enable them to:

- a) Improve productivity and reduce cost of operations.
- b) Make optimal use of available resources.
- c) Advanced planning and pre-planning resources
- d) Re-engineer workplaces and work and workstations.
- e) Reduce monitoring through manufacturing process.
- f) Make improvement in quality.
- g) Make improvements in production process.

The diagnostics and technical training program would be rolled out on a phase basis. It is hoped that such program will be helpful to increase productivity of knit factories

of Bangladesh. JA Seminar was arranged on March 22, 2005 in the BGMEA Dhaka office on the PIP where two consultant firms Lanoka Clothing Management Institute (LCMI) and Kurt salmon Associates Tekhnopark (KSAT) presented their individual PIPs.

The member units and SEDF will share the cost of the program; SEDF will be implementing the program with BGMEA for the next 2 Years (2005-2006)

Capacity Enhancement Program of Small and Medium factories to increase productivity.

Among the export-oriented garment factories, there are many factories as less efficient, or financially incapable or restructuring the industry with the changed needs of free trade. Most of these firms are dependent on sub contracting. The DECEP entails helping of these SMEs to face the probable post-MFA shock by enhancing the standard and skill in different areas. The formation of strategic partnerships, manager and acquisition can help these SMEs from being closed down and thus accumulate strength and enhance their bargaining ability. This in turn may contribute in increased export earnings, employment generation and regenerate economy. The program will also help upgrading technology: create technology awareness thereby increase productivity and quality. The program will be implemented in five years time at a cost of US\$ 6.0 million.

Technological Development in Primary Textile sector.

Besides importing specialized training for improving productivity, the component will help attain technological development in the textile sector, thereby upgrading quality and increasing capacity to cope up with changing market needs. 28,400 workers. Supervisors, designers, managers, executives and top management will be provided training on several skills such as productivity, quality international marketing, office automation and management Social accountability, labor standard safety standards, factory conditions, health care, and bargaining rights. The program will cost US\$ 5.0 million. Ministry of textile and Jute will be the lead ministry while most of the planned activities will be implemented.

Another program will provide training to the weaver, artisans, and designers involved in the handloom sector to improve design, quality and develop capacity to produce in response to changing market needs. 10, 000 workers will be provided training on different disciplines. JA national design and development center will be established in Dhaka. The cost will be US\$3.0 million.

Present Position of Ready –Made Garments Productivity in Bangladesh

The abolition of global quota system from 1st January 2005, the garment industry in Bangladesh is facing steep competition against Asian competitors specially china, India, Sri-Lanka and Pakistan. The backward linkage industry is not so strong approximately 80% fabrics are importing to meet domestic demand of this industry. This industry has been rapidly developed on the basis on cheap labor and longtime quota restriction of MFA at present, the phasing out of the MFA by the end of 2004, increasing, globalization, exert intense international competitive pressure on Bangladesh's RMG industry. So the future of this manufacturing sector depends on the performance of this industry at low cost production. In this context the country has to improve productivity to reduce production cost for international market competition to achieve this objectives it is essential improve total productivity specially labor and capital productivity. This industry has to adopt technology with the changing technological environment, arrange labor training to build up their skill to increase productivity. As the ready-made garment industry is cheap labor intensive, so the country has to element gap between actual production and standard production to produce low cost products meet global market competition.

Productivity through innovation

Technological changes can create new possibilities for the design of a product, the way it is marketed, produced, or delivered, and the ancillary services provided. Productivity is greatly affected by technological changes and it is impossible for an industry with old technology.

Production Process and Productivity of RMG

The production process of readymade garment is very much complicated and technology oriented. In generally, we can classify the production process into three kinds:

- i) Cutting
- ii) Sewing
- iii) Finishing

i) **Cutting:** Raw materials fabrics are cut according to the buyers order pattern man makes layout of a garment into different parts at first and makes patterns of different parts by using hand paper according to buyers expected size ratio. Marker man makes layout these patterns on a fabric representing long paper and drains different parts of a product or garment in a low fabrics consumption way.

Cutting man makes layout fabrics on a long cutting table on the basis of fabric representing drawing paper and cuts according to the pattern measurement of different parts of a product. These cutting outputs supply in different bundle as sewing inputs in sewing section.

ii) **Sewing:** Production manager makes layout of total sewing process of a garment for chain system production. According to various sewing process, he also makes layout different type of sewing machine on the floor. Per hour production quantity depends on proper layout of total sewing process. Production manager must flow the approval sample of the buyer at the time of his making layout of sewing process. The following production sketch of a shift shows an approval sample by elitex (ASIA) limited (Vertex wear ltd, 58, Motijheel C/A) Item W40340X

Layout of Sewing Process:

Item W40340X (Shirt)

Making Section Layout

1. Collar making	1pm
2. Collar 1/16to p sewing	1pm
3. Band rolling	1pm
4. Band joint	1pm
5. Band top sewing	1pm
6. Cuff sewing	1pm
7. Cuff sewing	1pm
8. Cup top sewing	1pm
9. Sleeve lower placket joint	1pm
10. Sleeve upper placket joint	1pm

Body Section:

1. Box plate	1 can chi two needle
2. Button box rolling	1pm
3. Pocket rolling	1pm
4. Pocket joint	2pm
5. Back yoke level joint	1pm
6. Back yoke joint	1pm
7. Yoke top sewing	1pm
8. Front and yoke joint	1pm
9. Front yoke top sewing 1/16	1pm
10. Collar joint	1pm
11. Collar top sewing	1pm
12. Sleeve joint	1pm
13. Sleeve and body side seam joint	5 thread interlock m
14. Cuff joint	1pm
15. Side seam top stitch (1/16 X 1/16)	2 needle m
16. Harming $\frac{1}{4}$	1pm
17. Button hole	1 buttonhole m
18. Button stitch	1 button stitch m

Source: Vertex Wear Ltd. Mirpur-1, Dhaka

$$\text{Labor Productivity} = \frac{\text{Output}}{\text{Labor}}$$

Here, output = Production Quantity X Price

Per hour Production = 90 paces X Per unit CM Price 21. \$ = 1890\$

Per hour average labor cost of 66 unit = 66 X .20\$(See the Table)
= 13.20\$

1890\$

Per hour Labor Productivity: = $\frac{1890}{13.20}$ = 143.17\$

Production Gap Between Standard and Actual Production in a Production Line.

A Production Gap in a line of Vertex Ware Ltd.

Labor Costs:

Clothing production has resisted automation more than many other industries as machines have so far failed to match the human hand in manipulating cloth during the sewing stage. Production remains. Labor intensive, and wage levels are crucial in determining the cost of the final product. The huge disparity in wage levels worldwide is the driving force behind the globalization of the garment industry (see table below) when the hourly wage of a USA garment worker is over 100 times that of a Bangladesh or Chinese worker, it is easy to see why the price war works in favor of Asian factories despite differences in productivity. Furthermore, since many factories are little more than a roof and a few dozen sewing machines, the start up costs are small.

Table no- 20: Inter –Country comparative average hourly wages in the RMG Industry

Inter –Country comparative average hourly wages in the RMG Industry	
Country	Wage/hour (US\$)
Germany	25.00
USA	16.00
South Korea	5.00
Mexico	2.40
Poland	1.40
China	0.35
Sri-Lanka	0.45
India	0.35
Nepal	0.30
Bangladesh	0.30 (Average of 7 grade new wages 2006)

Source: The Financial Express, Dhaka

Cost Structure of Ready made garment industry:

Ready made garment manufacturing is a highly labor intensive process, according to some findings labor costs account for a modest share in entire cost structure of ready made garments. Lack of any specific data representing the entire this sector in Bangladesh, here are presented the findings of two sector studies – a field survey of 72 factories by the world bank under its ISS (Industrial sector strategy) in 1992; and a study of 38 factories by the BIDS (Bangladesh Institute of development of studies) in 1995 to find out the recent cost structure and profit margin of ready made garment units) see the table.

Table no- 21:Cost Structure and profit margin

Indicators	Iss Study'92	BIDs Study 1995
Value of output	100	100
Costs:	87.00	76.00
Industrial Cost	73.00	64.00
Non-Industrial Cost	03.00	05.00
Employment cost(wage)	11.00	07.00
Gross value added	23.00	31.00
Profit margin	13.00	24.00

Mr. Bhattacharya and Mr.Rahman have pointed the above table, between 1992 and 1994, the proportion of costs in the gross value of output in Bangladesh's readymade garments sector decreased from 87% to 76% leading to an increase in the profit margin from 13% to 24%. The share of industrial costs fell from 73% to 64% resulting in a growth of the share of gross value-added from 23% to 31% during the corresponding period, within the gross value of output the share of non-industrial costs rose from 3% to 5 %. "The shift towards a higher share of non –industrial costs "reported Mr. Bhattacharya and Mr. Rahman " is characteristics of products of high market value, which is corroborated by the increase in the share of value added. The decrease in wage costs share however, does not signify a decrease in the wage rate in real terms"

Such comparisons, based as they are on two different surveys, are often misleading since neither the number nor the entitles of the readymade garment units are the same in both studies. Decreasing companies in figures under the respective heads, moreover, might be the outcomes of sample selection bias and or measurement error the statistics do, however, give an indication that even through RMG manufacturing is a highly labor intensive process, labor costs constitutes a very modest part of the entire cost structure of ready made garments production.

Therefore a strategy to reduce wages levels further, thus affecting laborers quality of life, does not necessarily imply the decline of production costs to remain competitive in the world apparel market, in fact production costs may increase many times over even in the presence of cheap labor, where there is political turmoil and strikes, extortion, and wide spread corruption including bribery, which allegedly lead to an enormous increase in the hidden costs of doing business, thus often discouraging foreign buyers from coming to Bangladesh, apart from escalating raw materials costs.

Notes:

- i) Industrial costs include expenditures on raw materials, packing materials, fuel and electricity, spares, and subcontracting.
- ii) Non-Industrial costs include expenditures on overheads i.e. costs other than material and labor expenditures. These costs include advertisement and facilitation expenses, selling & distribution costs interest payments and taxes.

Using Technology and its production capacity:

From the starting point of ready made garments industry establishment still now traditional sewing cutting and finishing technologies are using in the sector, to increase productivity, technology is an important factor, time to time the technology has to be modernized. Because, technological environment is always changing. It is the most dramatic force shaping the marketing environment. Technological environment is changing rapidly. New technologies create new markets and opportunities. Every new technology replaces an older technology. Many major new technologies are discovered and adopted affect the productivity. The ready-made garment industries of Bangladesh have to adopt latest technologies to increase productivity. It is very essential to meet international market competition due to phasing out MFA. But major manufacturers have modernized their technology and they have been able to increase their productivity and quality. Old technologies are manual but new technologies are auto oriented.

Low labor productivity is compensated for by low wage rates; and it is arguable that low wages and low productivity together make Bangladesh competitive at the labor intensive, low value product end of the international apparel market. Thus, for

products of similar quality, Bangladesh is generally cheaper than China or India by 5 to 20 per cent (IFC, 1999)

In order to assess the potential competitiveness of the RMG Industry in coming decade, however, one needs to go beyond the static comparative advantage of cheap labor to look at potential dynamic comparative advantages related to labor productivity, linkage industries and the overall industrial base and business climate. In this connection, a detailed international comparison of cost structure is essential, although it is currently difficult due to the unavailability of data.

In fact, interviews with entrepreneurs indicated that considerable uncertainty prevails regarding the competitive edge of Bangladesh's potential competitors in the post-MFA era. Adequate information in this respect is likely to be a key factor in determining Bangladesh's strategy in maintaining competitiveness in this future.

Job Quality of RMG Industry

The Ready-made Garment Industry in Bangladesh cheap labor supply availability has also helped its rapid growth. At present, Globalization is affecting both the working environment and job quality in this industry.

The labor of this sector is very cheap. But their productivity is low over nearest competitors. Most of workers are women; they have no proper training to increase productivity. Garments machine operating is a critical and complicated job. Lack of proper training institute, they are not getting high productive production knowledge. Those who are working as helpers in this factories, they are converting as operators in future. During converting period, sometimes they operate machines that causes wasted and alter products. This training process of helpers is a great obstacle for quality product. Besides low wages, women and also men are subject to working hours long beyond the eight hour day. Few workers receive such advantages as formal contracts or appointment letters, or maternity benefits, and there have been complaints about arrears in payments. Labor turnover is also high in this industry. Working conditions, however, improve with size of factory and have also improved overtime, although fire hazard safety precautions are adequate despite special programme executed by the ILO. This is mainly because factories are not functionally designed,

and are mostly located in urban areas. Lack of unionization remains an issue, when discussing the slow progress in improvement of poor wages and working conditions. Both wages and working conditions are also said to be better in the export processing zones (EPZs) compared to the domestic tariff area (DTA) though in the former workers suffer from a ban on freedom of association. Some factories have initiated health schemes in collaboration with NGOs

Input Indicators of Productivity

Input indicators of productivity basically refer to the production factors. The indicators are:

1. Labor
2. Land
3. Capital
4. Raw materials
5. Energy
1. Labor:

Garment industry is mainly labor intensive. Female workers are involved near about 90% of the total labor force (Bat Expo 200) this a distinguishable characteristics of this sector. These workers are very cheap, because they want to help their husband through extra income. Male labors also cheap because of female labors availability for this necessary production cost become low. But productivity is not increased lack of skilled workers. In some cases the labor union creates a problem for the garments. If labors are not working, then production is interrupted. Other than that many of the workers are not skilled or semi skilled. For that matter they cannot comply with the specification, which can create a loss for the garment. Moreover as this sector is fully depended on the labor, the workers tend to migrate from one garment to another without any prior notice. This creates a great problem in the chain system production layout system. It causes per hour production low. As a result, there is a gap between standard production and actual production per hour. Previously a problem with the labors that faced in foreign market was child labor. Different world organization opposed to this exploitation of child labor. They demanded child labor free garment.

Bangladesh had to comply with the proposal and in 1 November 1996 Bangladesh garments announced itself child labor free.

Existing laws are over-ruled, unfortunately for the workers that legal provision such as fixation of wages, fixation of working hours, health and safety arrangements are not followed by the majority of employers. Painfully, also observed that workers are kept on daily wages basis for 90 days and then services are terminated. Again those workers are engaged within 2-3 days only to avoid laws to put such workers in permanent employment. The female workers are the worst sufferers because they are not favored with formal appointment letters. Another point described earlier is that employers force the workers to perform duty 10 to 12 hours per day without paying normal overtime allowances and compensatory weekly holidays as provided under section six of the aforesaid act moreover, employers are in the dark in respect of Bangladesh Maternity Benefit act either ignorantly or wishfully. One may easily observe that money industries are kept open on government holidays in Dhaka city areas to increase productivity only cheap labors are not enough, its is essential health and educated workers, A study on "Nutritional status of female garments workers" was conducted by a group of students of Dhaka University in March 1997. They took up 10 garments industries of Dhaka city and selected four hundred female workers again between 14 & 18 years for thorough investigation including blood samples. The overall results of the study indicated low institutional status of those female works. The major findings are:

a) Poverty prevails due to low wages paid to female workers. Per capita energy intake by girls –20 percent lower than the FAO recommendation.

b) Educational Level:

Illiterate	39.3%
Class I to v	32.5%
Class v to X	37.1%
SSC level	1.1%

c) Monthly Income:

Taka 500	26.6%
Taka 501 to 1000	41.4%
Taka 1001 to 1500	22.2%
Taka 1501 to above	9.8%

- e) Above 65% of the workers use tap water supplied by WASA and become victim of various stomach diseases. Many of them have also been suffering from skin infection..
- f) About 36% of female workers suffer from iron deficiency and 64% are victim of various types of diseases for reasons of lower income, heavy workload irregularity of wages payment and low social status. It is obvious that female workers in garment industries are the majority having 90% of the total working force but it is painfully true they are the worst sufferers from all corners.

Recently, employers have increased wages at different level of workers. But it is not enough to bear their subsistence familiar expenditure. Because it is not blamed wages with the present price level. To increase workers productivity BGMEA has established 318 schools in which more than 8000 workers are studying. Through these educational activities, children are getting experience and they can work well in the near future. At present, BGMEA is operating a number of projects and programs to ensure better healthcare, workplace safety and labor rights of the garment workers in consequence with the local laws and ILO guidelines.

BGMEA signed the second MOU on 16 June 2000. An ILO report in 2001 said that 100% of the BGMEA member factories were then child labor free. As per its commitment, BGMEA has so far spent over 6,00,000 \$ for the child labor project. The US embassy in Dhaka has played significant roles in successful implementation of the projects.

EARN & LEARN Programme:

Under the child labor elimination project, BGMEA has given on the job training to 900 more students through local NGOs. UNICEF is also providing skill training on tailoring, embroidery garments machine maintenance, manufacturing and wool knitting to 576 more students.

Healthcare activities for high productive workers

BGMEA has so far established ten medical centers for the garment workers to increase productivity through healthy workers. The centers are located at mailbag, Mohammedpur, Mirpur, Gulshan, Postagola and Uttara in Dhaka. Two centers were set up in Narayanganj and Gazipur while two other centers were set up at Agrabad and Nasirabad in Chittagong. The medical centers are providing free primary health care, medicine and advocacy services on reproductive health issues to the gender equity to the 9,776 garments workers per month.

Group Insurance For the workers:

Group Insurance coverage has been made mandatory to cover workers under group insurance policy of all member factories.

Committees Serving Both Workers and Owners:

There is a bilateral committee constituted on 30 June 1997 with equal number of BGMEA representatives and the representatives from registered garment trade unions to settle any labor dispute amiably concerning policy matters in the sector.

The Conciliation –Cum-Arbitration Committee

The committee is headed by a retired district judge or a retired chairman of a labor court, it is also composed of equal number of BGMEA representatives and labor leader of registered trade unions, The committee gives quick and mutually agreed solutions to problems either raised by the owners or. The workers on a certain issue. The arbitration process having no monetary involvement for either party also helps the aggrieved party from undergoing a lengthy judicial process to settle his or dispute. The arbitration procedures have proved to be very successful to resolve labor disputes at factory level.

2. Land:

Land is required to set up factory and other bonded warehouse. This factor is important in the RMG sector as well as in the textile sector, which is providing the fabrics. From the viewpoint of productivity, land means rent per square feet in garment industry. Almost all garment factories are established to hire some floors of an unplanned building; these types of floors are not blamed with the production process that is low productive space.

The garment industry is mainly concentrated in two urban areas; Dhaka, which is the major center and Chittagong, Dhaka, and Chittagong is the main international transportation center. It is important to minimize time and expense for transportation of both raw materials and finished goods. Convenient movement of people such as overseas buyers is also necessary. These reasons favor both cities. On the other hand, cheap labors are available here.

BGMEA strongly feels that relocation of most the garment factories in wide spaces outside the busy cities will help the members better fulfill their commitments to the workers and the international community, the association has been working on setting up garment villages. Once the proposed garment villages are set up, it would be easier to ensure all compliance easily including providing better work place safety and accommodation to the workers and employees on the campus, balanced space with production process is always productive.

3. Capital:

Capital is a vital indicator to immerse production. Its requirement like other business is essential for garments. Previously in Bangladesh the capital was accumulated through joint venture. Now days with a lot of interests from local businessmen. The sector is financed by the local commercial banks and sometimes foreign aid capital requirement is very low in this sector like other business. Any entrepreneur can start this business simply to purchase some machines by hiring two or three floor on the basis of bank loan. It has no large amount fixed cost without machine purchasing and factory readiness.

In textile sector a large amount capital investment to set up production factory. So Govt has announced financial incentives to support RMG industry. Foreign investment is coming to invest in textile sector. Through foreign capital investment this sector has been strengthening. As a result, the productivity of readymade garment industry is increasing. In spite of this opportunity, lack of capital availability, govt has also announced liberalized financing incentives for local entrepreneur in RMG and textile sector.

For high productivity of RMG industry, it is very essential to adopt computerized machines to balance with the global changing technological environment. This reason requires capital availability in this context, Bangladesh govt providing following incentives.

1. For 100% export oriented industry, no import duty is charged in case of capital machinery and spares up to 10% value of such capital machinery
2. Value added tax (VAT) is not payable for imported capital machinery and spares.
3. Government incentives for the spinning and weaving industries include a 15% cash subsidy of the fabric cost to exporters sourcing fabrics locally
4. Generally 5-7 years depending on the location of industrial enterprises industrial enterprise not enjoying tax holiday is entitled to enjoy accelerated depreciation allowance.
5. Facilities for full repatriation of invested capital profit and dividend
6. An investor can wind up investment either through AGM or EGM s/he can repatriate the divested fund after securing proper authorization from the central Bank.
7. 100 % foreign equity is allowed. Foreign investor can set up ventures either wholly or in joint collaboration with local partner.

4. Raw Material:

The RMG industry is heavily dependent on imported raw materials. The primary textile sector (PTS) is presenting capable of supplying around 90% demand of yarn and fabric of knit sector and 25% woven fabrics for export oriented RMG units (BTMA annual report 2004, P-33) with the phasing out of the MFA, Bangladesh is facing a supply shortages of required fabrics some stockholders argue, since the current suppliers will find it more profitable to use their locally produced fabrics to produce their own RMG products, which they will be able to export competitively in the quota free world apparel market.

It is a threat on RMG industry the Bangladesh's excessive dependence on imported raw materials has adversely affected its competitiveness by increasing the lead time and cost of production, the lead time from the order date to the shipment date in

Bangladesh is between 120 and 150 days, compared to 19 to 45 days in India and Sri-Lanka. For some countries, the lead-time is only 12 days (textiles Asia, June 1999, P-61). Unless Bangladesh manages a substantial reduction in its lead-time domestic production of quality fabrics for export will be left in a very disadvantages position. Establishment of backward linkages, especially the domestic production of yarn, can reduce the cost of production without reduced production cost; it is impossible to improve productivity.

5. Energy:

Energy is the most important indicator of high productivity; energy cost in Bangladesh is lower compared to India and Pakistan.

Pakistan	\$0.08/kwh
India	\$0.095/KWh
Bangladesh	\$0.07/Kwh

In spite of lower energy cost, load shedding has become a common phenomenon in this country. If factories do not have electricity the machines can not be operated. As a result, production is interrupted. It is a great constraint for high productivity installation of generators is an expensive project. At present, power supply authority ensures uninterrupted power supply to continue production. Out of shortages production of electricity, the authority is providing special service. So that the factories can operate normally and utilize there full potential and capacity.

Productivity through diversification:

Product Diversification:

As already mentioned, due to its low labor productivity Bangladesh is competitive, with low value and thus low –period items, at the lower end of the RMG market. RMG production is concentrated in a relatively limited range of products such as shirts, T-shirts, trousers and short wears. To be internationally competitive, Bangladesh needs to expand its product range and should begin producing fashion wear and higher priced items, product diversification is essential to meet the global challenges. Evidence suggests that Bangladeshi entrepreneurs are already shifting to higher –value knitwear products. The following table shows however, that there is scope for diversification into a range of other products.

Table: 22 Range of Products:

Category	Range of products
237	Play suits etc
331	Gloves
334	Coats, non-suit, M&B
335	Coats, W & G
336/636	Dresses
338/339	Knit-shirt & blouses
340/640	Shirts not knit, M & B
341	Shirts & blouses not knit, M & B
342/642	Shirts
347/348	Trousers, etc
351/651	Nightwear
352/652	Underwear
363	Terry & other pile towels
3695	Shop towels
634	Coats non-suit M & B
635	Coats W & G
638/639	Knit shirts & blouses
641	Shirts & blouses not knit w & g
645/646	Sweaters
647/648	Trousers etc
847	Trousers, slacks, shorts
1.2	Jackets
2.0	Winter outerwear
3.2	Assembles MBC
4.1	Suits wgc & ensembles
4.2	Jackets & blazers, wgc
3.2	Ensembles MB
4.1	Suits, wg c
4.2	Jackets & blazers, wg
3.2	Athletic meam mbwgc
4.1	Sweat shirts
4.2	Underwear
8.4	Babies garments
8.3	
9.0	
14.0	

Policy makers must recognize that sufferings capacity building is required for such diversification, which involves improving skills such as fashion design and cutting as well as upgrading techniques. Entrepreneurs can also benefit from a data bank, which gives comparative RCAs (Revealed Comparative Advantage) for close competitive, enabling them to better understand market trends and potentials.

Market Diversification:

Bangladesh has concentrated only in USA EU and comedian market. About 45% of its total apparel exports go to us markets, 50% to EU countries, 2.5% in Canada and the rest 2.5% go to other countries. If Bangladesh wants to maintain its world market share and competitive edge, it needs to diversify its markets. At present, Bangladeshi garments have entered in Australian and Japan. It is a ray of hope to increase productivity through new market diversification.

Productivity Through HRD

In absence of automatic production process, human resources is the essential factor to improve productivity. All using machines in RMG sector are manually operated so that Bangladesh has to develop human resource. BGMEA signed the agreement titled A partnership approach to improving labor relations and working conditions in the Bangladesh Garments Industry on 01 October 2002 to improve working conditions occupational Health and safety and labor relations in the garment industry. The key components of the project are to build awareness and ensure occupational health and safety, human resource management. The project will also facilitate increase in productivity and quality improvement.

To build up capacity at factory levels BGMEA is organizing training programmers for mid level managerial and production people at the BGMEA institute of Fashion and technology (BIFT) . BGMEA ensures members are aware of the impending difficult situation and encourages then attending seminars and becoming more market oriented.

Improvements in productivity and further capacity building

One thing is clear from this chapter that one issue facing ready-made garment industry in Bangladesh is the slow rate of increase in productivity, and the gap that exists between this country and other competitors in this regard. There is also scope for capacity building in different types of skills and processes. The aim should be to move the industry up to a different regime, wherein competition is based on higher productivity, an improved working environment, and backward and forward linkages to meet the new challenges of the post MFA era. A more concentrated action plan is needed in this regard.

Interviews with factory owners for example, have suggested that Bangladesh is at a disadvantage compared to countries such as Sri-Lanka, where a more educated labor force, especially at the supervisory and managerial levels, increases labor productivity, thus, training schemes for managers and supervisors are an important element in increasing productivity, including the introduction of functional English courses for higher level employees, improving their ability to read operating manuals and so on to these ends, the govt, should also increase its allocations to the education sector.

Conclusion:

The Textile and Clothing sector of Bangladesh is an important sector from the viewpoint of the growth rate of Gross Domestic Production of Bangladesh. A complete supply chain can help to boost the economic growth of Bangladesh. From the expiry of quota system on 1st January 2005, this sector has entered into the international market competition. To sustain this industry, a complete supply chain as the backward linkage industries is essential to back up the 100% export-oriented garment industry for its competitiveness. The RMG industry of Bangladesh has established based on cheap labor advantage. For a long time, quota restriction was a safeguard of this sector. At present, low labor productivity and weak backward-linkage are compensated for by wages rates; and it is arguable that low wages and low productivity together with make Bangladesh competitive at the labor intensive, low value product end of the international apparel market. **Thus for products of similar quality, Bangladesh is generally cheaper than China or India by 5 to 20% (The daily Observer 15th January 2005).** In spite of this, lack of well-established backward linkage, Industries especially woven fabrics, Bangladesh is importing raw materials at a higher cost. As a result, the price of garments is going to be higher. Gradually Bangladesh is losing its competitive advantages. In this situation large-scale production is essential. Bangladesh has to increase or improve productivity to reduce production cost and forfeit higher raw material cost by higher productivity. For competitive advantages, lower wages and higher productivity together with will help to make competitive advantages for the long run. On the other hand, Bangladesh has to established strong backward linkage industry especially woven fabrics, dyeing printing and finishing.

Recently, the labor movement and their achieved higher wages have increased production cost. In this new problematic situation, Bangladesh has to increase productivity at every stage through establishing backward-linkage industry as a complete supply chain to win competitiveness that has illustrated into above mentioned figures.

Chapter-Six

(Opinions of Sample Respondents)

- List of Sample Respondents Organizations
- Yearly Production Capacity
- Number of Labor
- Labor Productivity per hour based on yearly Production Capacity & Total Labor
- Standard and Actual Production Gap of Woven Shirt (340) in a production line of Sample Respondents
- Reasons for Production Gap Between Standard and Actual Production per hour.
- Type of Sample Respondent Organizations
- Possibilities of Increasing Productivity by Using Computerized Machine DDL- 9000
- Per piece FOB Price and CM price of Men's Shirts
- Suggestions to Improve Productivity of Sample Respondents
- Capability of Weaving Sector as a Backward-Linkage Industry
- Capability of Knitting Sector as a part of Backward-Linkage Industry
- Dyeing, Printing & Finishing Sector as a part of Backward-Linkage Industry
- The Capability of Spinning Sector in Bangladesh.
- Packaging and Accessories Capabilities
- Productivity Position of Bangladeshi Garment Industry within the Major South Asian Countries Problems due to phasing out the quota facilities at Woven Sector
- Cotton production possibilities to strengthen the textile and clothing sector.
- Is labor Productivity Higher Among the Asian Countries
- Reasons of Low Productivity Among the Asian Countries.
- Reasons of Low Productivity Among the Asian Countries.
- Strong and weak Garments Factory.

Table no – 23: List of Sample Respondents Organizations

SL No.	Name of the Organization	Address	Type of Organization	Name of the Respondents
1	Young International (BD) Ltd.	CEPZ, Ctg.	Woven Shirt	N.A Khan,G.M
2	Mun Ready Wear Ltd.	26, Chaudhurypara.Dh aka	Woven Shirt	Md. Kawsar,GM
3	Mohammadi Apperals Ltd.	50,Lalbag road, Dhaka	Shirt	Mohiddin Nirab
4	Max Super Apperals Ltd.	H # 6, R # 102, Gulshan-2	Shirt	Mr Jalal A/C
5	Opex Garment Ltd.	H#368, R# 28, New DOHS	Shirt – 4	Mr Mainul GM
6	A R A Garments & Textile Ltd.	39, Kawran Bazar, Dhaka	Shirt	Mr. Anwarul Kabir C M
7	Adeeba Apparels Ltd.	House-19, Road- 13/C Block- E, Banani	Woven Shirt	Mr.Ziaul Amin M.D
8	Alif Apparels Ltd.	21/22,Babar road /Block- B Mohammadpur	Woven Shirt	Mr. Azizul Islam G.M
9	Max Super Apperals Ltd	SHI/1, Section- 7,Mirpur	Shirt	Mr, Jalal P. M
10	Binni Garments Ltd.	164/1, South Kamlapur	Shirt	Mr Lutfur Rahaman
11	AKH Fashions Ltd.	122/123, Darus Salam Road Murpur, Dhaka	Woven Shirt Single Unit	Md. Shamsul Alam M.D
12	Akil Design Ltd.	House # 11, Road # 25, Sector# 27	Woven Shirt Single Unit	Md. Abu Musa M.D

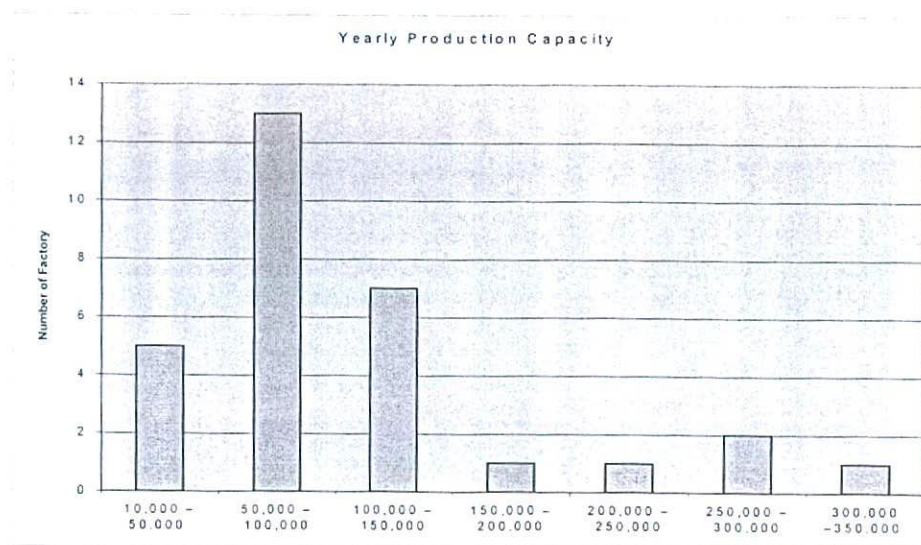
13	Hollywood Fashion Ltd.	41, Sumsuddin Mansion, Gulshan-2 Dhaka- 2	Woven Shirt Single Unit	Mr. Masbauddin C.M
14	Hamra Garment Ltd.	House # 2/B, Road #29, Gulshan-1	Woven Shirt Single Unit	A K M Sazzadul,Md
15	Alif Apparels Ltd.	21/22, Babar Road, Block # B Mohammadpur,Dhaka	Woven Shirt Single Unit	Md. Azizul, Chairman
16	Golory Fashion Ltd.	H # 79, Block-L Banani, Dhaka	Woven Shirt	Mr. Safiqul Islam.Md.
17	Beximco fashion Ltd.	Old EPZ , Savar, Dhaka.	Shirt-4 Stage	
18	Vertex Fashion Ltd.	1, Mirpur Super Market, Dhaka	Woven Shirt	Mr. Zahanger Alam
19	Alpha Fashion Ltd.	212, Lalmatia , Dhaka	Woven Shirt	M.Saif Uddin. M.D
20	Mun Ready ware Ltd	26, Chadurypara,Malibag, Dhaka	Woven Shirt Single Unit	Mr. Kaisar Hosen MD
21	Axel Apparel Ltd.	H # 82, New Airport Road, Banani	Woven shirt Single Unit	Mr. Harunar Rashid MD
22	Allied Garments Ltd.	Malibagan Super Market,468 DIT	Woven shirt	A.Mageed Babu.M.d
23	Padma Satil Fashion	1/B, Darus Salam Road, Murpur	Woven Shirt	Mr. Anower Ali G.Ms
24	Adhunik Poshak Ltd.	69, Mahakhali, Dhaka.	Woven shirt	Tofazzal Ali.Director
25	Active Apparels Ltd.	H # 19, R # 13/c, Banani Dhaka	Woven Shirt	MR.Ziaul Amin,M.D.
26	Accolade Fashions L.	H #54, R # 12, Sector- 14, Ultra.	Sweaters- 2	Mr. Nazimuddin.M.D
27	Aero Design & Fashion Ltd.	H # 26, R #11, Block-F	Sweaters- 2 Stages-2	Md. Mafizul Islam.
28	Allahma apperals Ltd	4,Monir Hossion Lane, Narinda	T-Shirt stages-4	Mr.Nasiruddin Ahmed
29	AB Sweaters Ltd	Suit # H 7,67,Palton, Dhaka	T- Shirt Stages-4	Mr. Mahabub Alam Md & PM.Sangkar
30	Aditi Apparels Ltd.	744, Shawrapara, Miupur,Dhaka	T-Shirt s-4	Mr. Nakul Chandra M

Table no – 24: Yearly Production Capacity

Class Interval	Frequency	Percentage
10,000 – 50,000 thousand doz.	5	16.67 %
50,000 – 100,000	13	43.33 %
100,000 – 150,000	7	23.33 %
150,000 – 200,000	1	3.33 %
200,000 – 250,000	1	3.33 %
250,000 – 300,000	2	6.67 %
300,000 – 350,000 thousand doz.	1	3.33 %

Diagram no – 7: Yearly Production Capacity

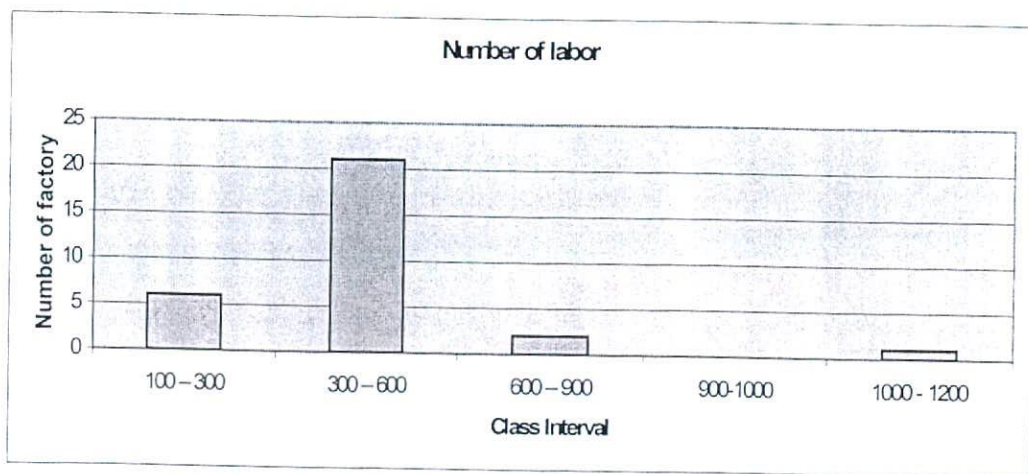
Thousand Dozen per Year



Thousand Dozen per Year

Table no – 25: Number of Labor

Class Interval	Frequency	Percentage
100 – 300	6	20 %
300 – 600	21	70 %
600 – 900	2	6.67%
900-1000	0	0 %
1000 - 1200	1	3.33 %

Diagram -8 Number of Labor

The above table and graph show that 70 % factory is under the range of labor 300-600. 20 % factory is under the range of 100 to 300 labors. The figures also illustrate that major factories of Bangladesh have average 450 labors and only 3 % factories have above 1000 labors. Most of these factories are 3 or 4 stages composite textile. They said that the larger factories are trying to set up composite textile to strengthen their backward-linkage industry. The yearly production capacity of 43.33 % factories is 50000 to 100,000 thousand dozen. 23.33% factories production is 100,000 to 150,000 thousand dozens. The above figure shows that the maximum factories under low production capacity. 6.67% factories' production is under the range 250.000 to 300.000 thousand dozens. 16.67 % factories production is under the range 10000 to 50,000 dozen. The following figure also shows that only 3.33% factories have higher

production capacity, the range is 300,000 to 350,000 thousand dozens and 3.33% is under the range 200,000 to 250,000 dozen.

**Table no – 26: Labor Productivity per hour based on yearly
Production Capacity & Total Labor**

Sl	Name of the Organizations	Yearly Production Capacity (Dozen)	Number of Labor	Labor Hours	Labor Productivity
1	Yong International (BD) Ltd.	320000	1425	11400	28.07
2	Mun Ready Wear Ltd.	220000	515	4120	53.39
3	Mohammadi Apperals Ltd.	60000	325	2600	23.07
4	Max Super Apperals Ltd	90000	250	2000	45.00
5	Opex Garments Ltd.	96000	431	3448	27.84
6	Salam Fashion Wears Ltd	125000	400	3200	39.06
7	Adeeba Apparels Ltd.	90000	530	4240	21.22
8	Islam Apparels Ltd	120000	375	3000	40.00
9	Max Super Apperals Ltd	250000	850	6800	36.76
10	Binni Garments Ltd.	60000	250	2000	30.00
11	AKH Fashions Ltd.	12000	580	1440	83.33
12	Akil Design Ltd.	30000	130	1040	28.84
13	Hollywood Fashion Ltd.	100000	500	4000	25.00
14	Hamra Garment Ltd.	48000	300	2400	20.00
15	Alif Apparels Ltd.	146000	435	3480	41.95
16	Golory Fashion Ltd.	150000	520	4160	36.05
17	Beximco fashion Ltd.	250000	800	6400	39.06
18	Vertex Fashion Ltd.	100000	400	3200	31.25
19	Alpha Fashion Ltd.	75000	370	2900	25.86
20	Mun Ready ware Ltd	90000	300	2400	37.50
21	Axel Apparel Ltd.	120000	500	4000	30.00
22	Allied Garments Ltd.	120000	484	3904	30.73
24	Fashiontak Ltd.	80000	360	2880	27.77
25	Adhunik Poshak Ltd.	38000	450	3600	10.55
26	Active Apparels Ltd.	60000	230	1740	34.48
27	Accolade Fashions L.	75000	500	4000	18.75
28	Aero Design & Fashion Ltd.	100000	436	3488	28.66
29	Allahma apperals Ltd	90000	250	2040	44.11
30	Ali Garments Ltd	22000	205	1640	13.41

Table no - 27

Standard and Actual Production Gap of Woven Shirt (340) in a production line of Sample Respondents

SL. No.	Per hour Production of Standard and Actual Quantity (Average)		Per hour Production Gap
	Standard Production per hour	Actual Production per hour	
1	140	110	30
2	150	125	25
3	130	110	20
4	140	110	30
5	130	100	30
6	120	90	30
7	130	98	28
8	140	105	35
9	120	95	25
10	120	97	23
11	130	99	29
12	140	115	25
13	120	92	18
14	120	96	24
15	130	109	21
16	150	120	30
17	140	110	30
18	120	100	20
19	120	97	23
20	130	108	22
21	120	104	16
22	130	105	25
23	130	109	21
24	120	100	20
25	140	115	25
26	130	108	22
28	120	99	21
29	130	103	27
30	130	106	24

The above analytical table mentioned that in every organization is failing to achieve the standard production. There may have many reasons for this gap. But it is true that because of low productivity, Bangladesh cannot close the gap. This gap is a curtail for Bangladesh.

Table no -28: Reasons for Production Gap Between Standard and Actual Production per hour.

Possible reasons	Frequency	Percentage
Lack of proper layout of Sewing Process	2	6.67 %
Old technology	15	50.00 %
Lack of labor specialization	1	3.33 %
Lack of technological knowledge of labor	5	16.67 %
Inefficient Management	1	3.33 %
Lack of decent working environment	2	6.67 %
Interrupted power supply	4	13.33 %

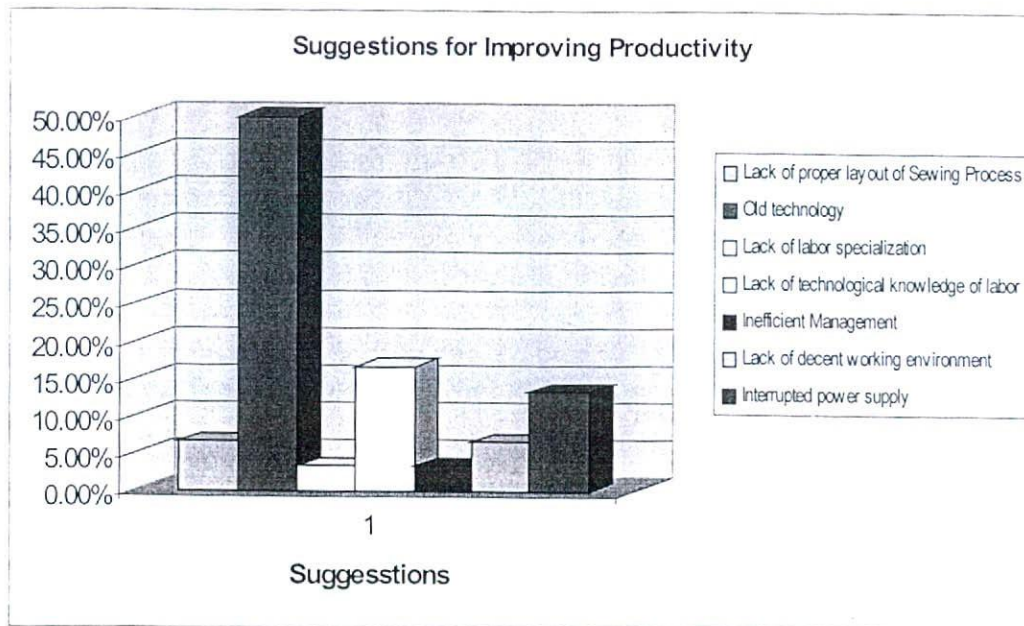


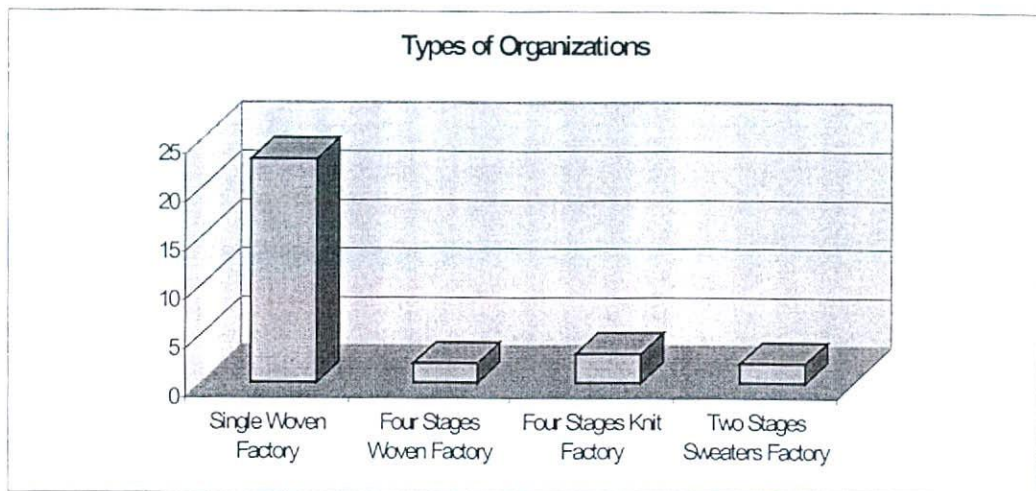
Diagram – 9: Reasons for Production Gap Between Standard and Actual Production per hour.

The Sample respondents were asked about the possible reasons of production gap. 50% of total respondents answered the question that old technology causes the production gap. They said, Bangladesh has to adopt new technology and more emphasis on capital productivity. They also said that the productivity of china is higher than Bangladesh because of their capital Productivity. Technological environment is always changing. At present, DDL-9000 model sewing machine has introduced which is computerized operating system. The additional benefits of this machine are:

1. Auto trimmer (Without helper) labor saver 35% thread saver.
2. Energy saver server motor, 25% power saver.
3. High speedy stitches, minimum 400 stitches per minute and maximum 4500 stitch per minute.
4. Programmable sewing
5. Auto stop after target sewing
6. Auto needle down position
7. Auto backstitches
8. Auto needle up position
9. Auto lifter.

Table no – 29: Type of Sample Respondent Organizations

Type of Organizations	Frequency	Percentage
Single Woven Factory	23	76.67%
Four Stages Woven Factory	2	6.65%
Four Stages Knit Factory	3	10.00%
Two Stages Sweaters Factory	2	6.70%

Diagram no -10 Types of Sample Respondent Organizations

The data has been collected from 30 units, 25 units were woven shirt producers, out of 25 garments, two were four stages composite textile and three garments were four stages knit factories. The rest two were sweaters (knit) factories.

Table no – 30: Per piece FOB Price and CM price of Men's Shirts

SL. No.	Per Piece FOB Price	Per Piece MC Price
01	4.00	1.25
02	3.33	1.00
03	4.00	0.60
04	3.00	0.66
05	3.50	0.80
06	4.00	0.90
07	4.50	1.30
08	4.10	1.20
09	3.5	0.75
10	3.33	1.25
11	4.50	0.90
12	4.00	0.60
13	3.50	1.00
14	3.33	1.50
15	4.00	1.25
16	4.00	0.90
17	3.70	0.90
18	3.80	0.70
19	4.00	0.66
20	3.40	0.60
21	4.00	0.80
22	3.75	.60
23	4.30	1.00
24	4.00	1.20
25	2.90	1.25
26	3.00	0.65
27	3.90	0.70
28	3.80	1.00
29	4.00	1.00
30	4.10	0.62

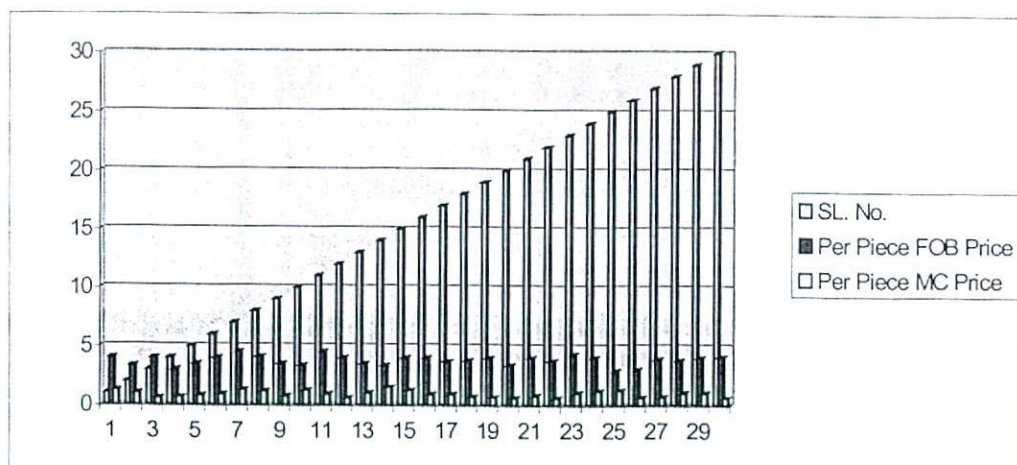
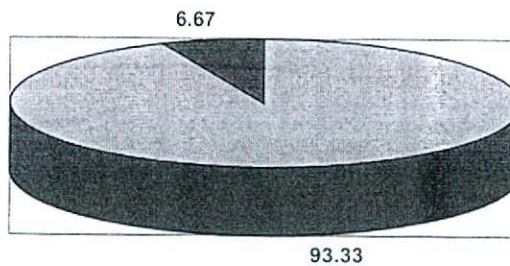
Diagram – 11: Per piece FOB Price and CM price of Men's Shirts

Table no- 31 Possibilities of Increasing Productivity by Using Computerized Machine DDL- 9000

Answer	Frequency	Percentage
Yes	28	93.33 %
No	2	06.67 %

Pie Chart no – 3: Possibilities of Increasing Productivity by Using Computerized Machine DDL- 9000

Opinions for adopting new technology.



The Sample Respondents were asked about the possibilities of productivity by using computerized machine DDL- 9000. 93.33 % respondents answered that technological environment is always changing. Bangladesh should adopt it to maximize her productivity. Only 6.67 % respondents answered that the adaptation is high involvement, it will require huge investment. The price of a machine is around 20,000 US\$ that is 1,40,000 BDT. They said large factories are adopting such a machine gradually.

Table no – 32: Suggestions to Improve Productivity of Sample Respondents

Suggestions	Frequency/ population	Percentage
Introduce New Technology	20/ 30	66.67 %
Skilled workforce & Strong Backward-Linkage	20/ 30	66.67 %
Stand by power supply	10/ 30	33.33 %
Adequate Stock of Raw Materials	28/ 30	93.33 %
Proper Supervision	02/ 30	06.67 %

66.67 % sample respondents of total population suggested that the most important task is to introduced new technology and upgrade labor skill through proper training. 33.33% respondents suggested that stand by power supply is essential to enhance productivity. On the other extreme, 93.33 % respondents advised to ensure adequate stock of raw materials. Only 6.67 % suggested for proper supervision.

Table no – 33: Capability of Weaving Sector as a Backward-Linkage Industry

Percentage of Capability	Frequency
00 – 20 %	08
20 – 40 %	20
40 – 60 %	01
60 – 80 %	00
80 – 100 %	00

Diagram no – 12: Capability of Weaving Sector as a Backward-Linkage Industry

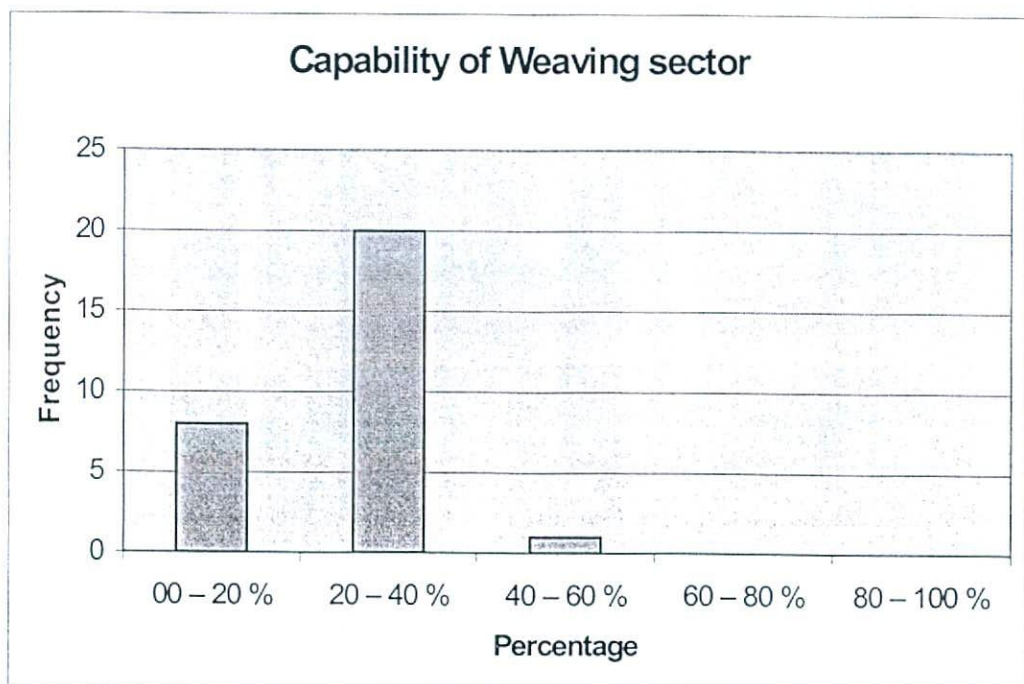
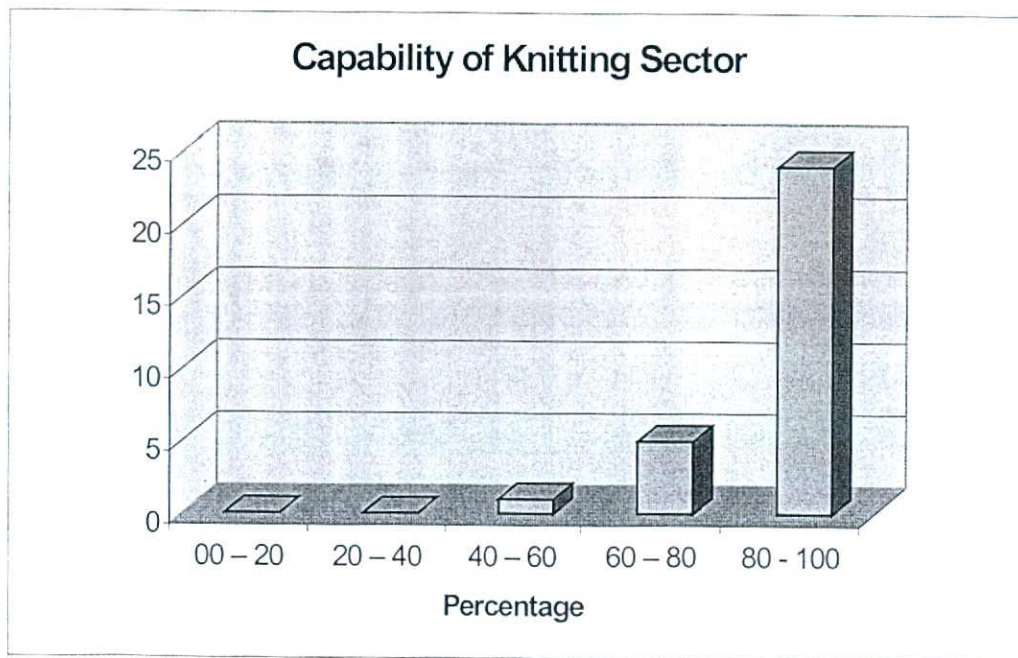


Table no – 34: Capability of Knitting Sector as a part of Backward-Linkage Industry

Percentage	Frequency
00 – 20	00
20 – 40	00
40 – 60	01
60 – 80	05
80 - 100	24

Diagram no – 13: Capability of Knitting Sector as a part of Backward-Linkage Industry



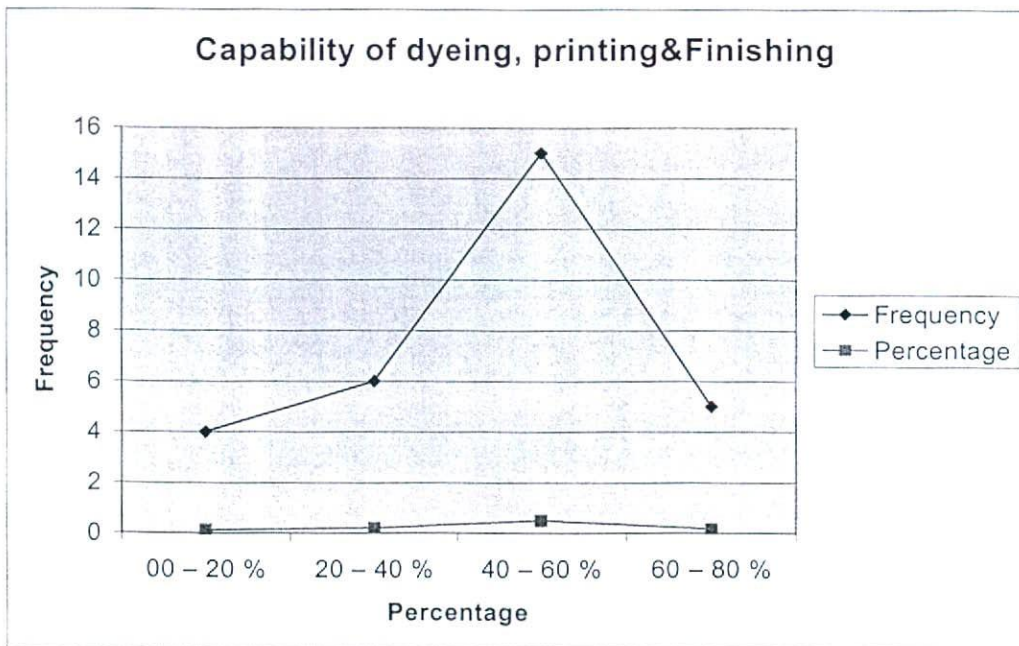
Out of 30 respondents 25 respondents answered that the Backward Linkage of Knitting sector is 80 to 100 % capable to supply all types of raw material for Knitting Garments. 5 respondents answered that the knitting sector can supply only 60 to 80 percent of its domestic demand and one respondent answered that the country can supply only 40 to 60 percent. They said that the buyers often want raw materials from country abroad. Bangladesh can produce but her fabrics are not so qualified. But their expectations are in favor of well-established backward linkage industry in

Bangladesh. They think that very soon Bangladesh would be able to produce quality fabrics and other related raw materials.

Table no – 35: Dyeing, Printing & Finishing Sector as a part of Backward-Linkage Industry

Capability	Frequency	Percentage
00 – 20 %	4	13.33 %
20 – 40 %	6	20.00 %
40 – 60 %	15	50.00 %
60 – 80 %	5	16.67 %

Diagram no- 14: Dyeing, Printing & Finishing Sector as a part of Backward-Linkage Industry



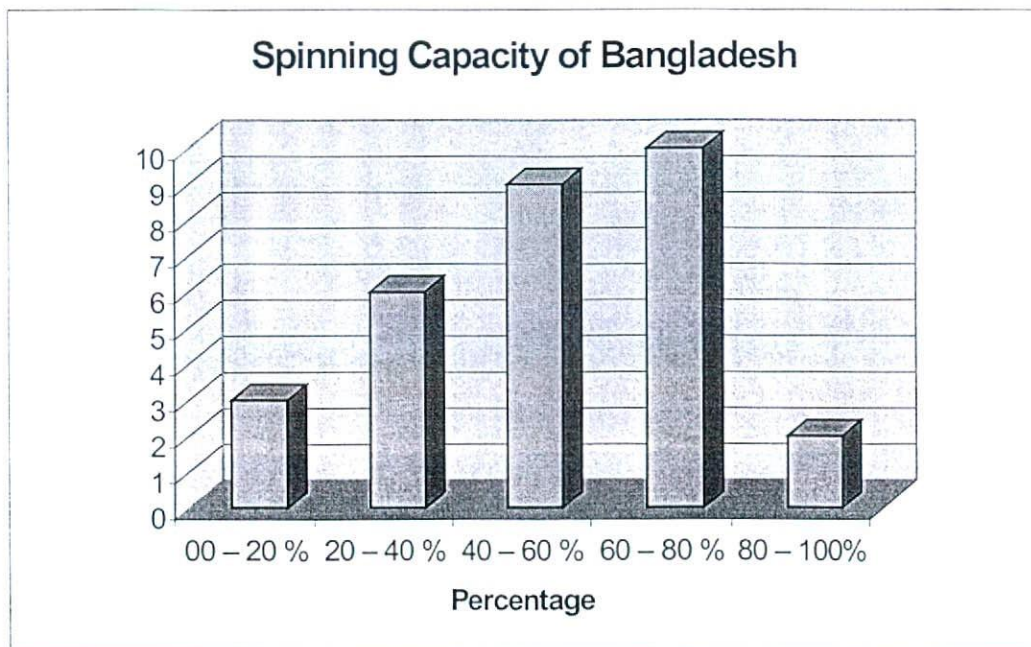
50 percent respondents think that the dyeing, printing and finishing sector of Bangladesh export oriented garments industry is capable between 40 to 60 percent capable. 20 percent respondents answered that this sector is capable between 20 to 40 percent and 16.67 percent respondent think that the capability is between 60 to 80 percent. The rest respondents answered that Bangladesh is only 20 percent capable to

supply dyed, printed and finished fabrics. But major respondents said that the government environment pollution regulatory activities are interrupting the growth of this sector.

Table no-36: The Capability of Spinning Sector in Bangladesh.

Capability	Frequency	Percentage
00 – 20 %	03	10.00 %
20 – 40 %	06	20.00 %
40 – 60 %	09	30.00 %
60 – 80 %	10	33.33 %
80 – 100%	02	06.67 %

Diagram no -15: The Capability of Spinning Sector in Bangladesh.



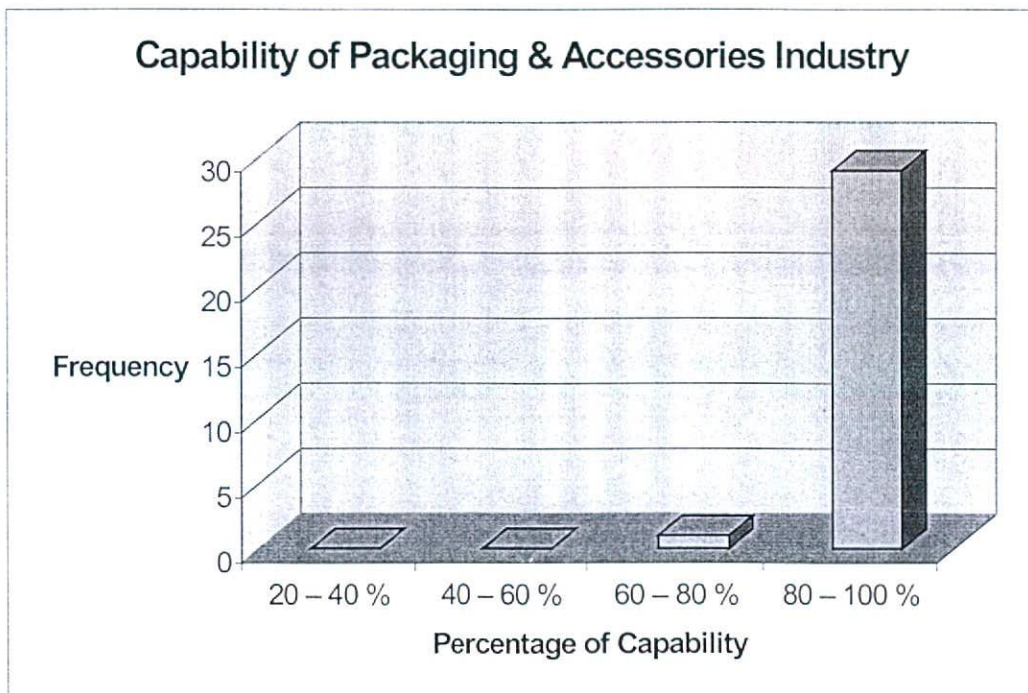
The backward-linkage industry of the Knit sector on Bangladesh is well established. This sector is producing huge yarn that is enough to meet the demand of knitting fabrics. In this context, 30 factories were asked about the capability of spinning sector

to strengthen the 100% export oriented garment industry in Bangladesh. The 33.33% respondents answered that the capability is between 60 to 80 percentages. The 30 % respondents answered that the capability is between 40 to 60 percentages. The 20 % respondents answered that Bangladesh is only 30% capable to meet the domestic demand. The rest 10 percentage answered the capability is 20 %.

Table no –37: Packaging and Accessories Capabilities

Capability	Frequency	Percentage
20 – 40 %	00	00.00%
40 – 60 %	00	00.00%
60 – 80 %	01	03.33%
80 – 100 %	29	96.67%

Diagram- 16: Packaging and Accessories Capabilities



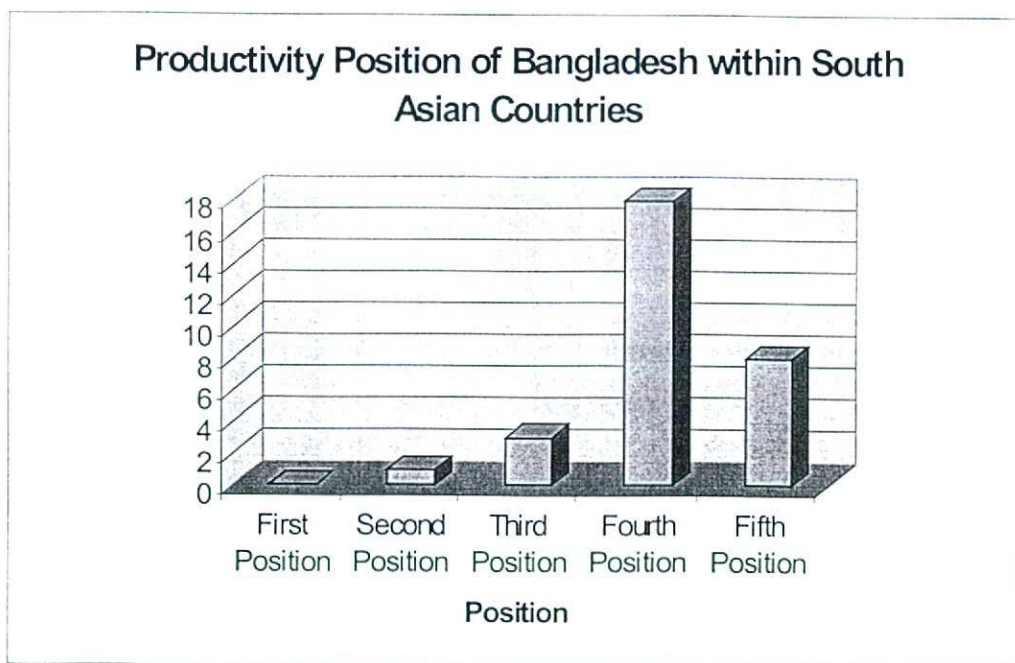
The Packaging and Accessories Industry is playing an important role as a part of Backward-Linkage Industry through supplying cheapest packaging and accessories materials to Ready-made Garment Industry. The 96.67% respondents answered that this industry is fully capable to supply enough materials. After meeting domestic demand, this industry is exporting packaging and accessories materials to foreign

countries. Only 03.33 % respondents said that the capability between 60 to 80 percentage. On the other extreme, according to the BCCAMEA (Bangladesh corrugated carton & accessories manufacturers & exporters association) this sector is 100 % capable to meet domestic demand.

Table – 38: Productivity Position of Bangladeshi Garment Industry within the Major South Asian Countries

Productivity Position of Bangladesh Within South Asian Countries	Frequency	Percentage
First Position	00	0.00 %
Second Position	01	03.33%
Third Position	03	10.00%
Fourth Position	18	60.00%
Fifth Position	08	26.67%

Diagram no -17: Productivity Position of Bangladeshi Garment Industry within the Major South Asian Countries

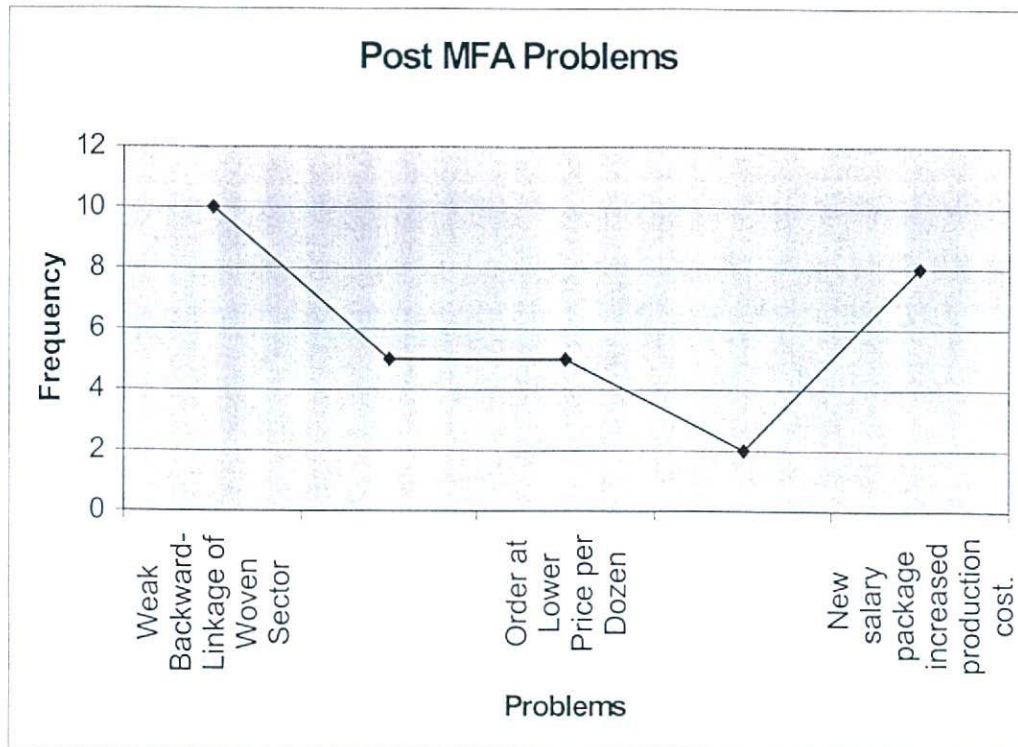


The 60 percent respondents answered that the productivity position of Bangladesh is 4th place between the major South Asian Countries. The 26.67 % respondents answered that Bangladesh is at 5th position from the viewpoint of productivity. The 10% respondents said that the country is at 4th position and the 3.33 % respondents evaluate that Bangladesh is the second productive country in South Asia.

Table no –39: Problems due to phasing out the quota facilities at Woven Sector

Arising Problems	Frequency	Percentage
Weak Backward-Linkage of Woven Sector	10	33.33 %
Higher Interest Rate	05	16.67 %
Order at Lower Price per Dozen	05	16.67 %
Long lead time causes delay the order processing	02	06.67 %
New salary package increased production cost.	08	26.67 %

Diagram no – 18: Problems due to phasing out the quota facilities at Woven Sector



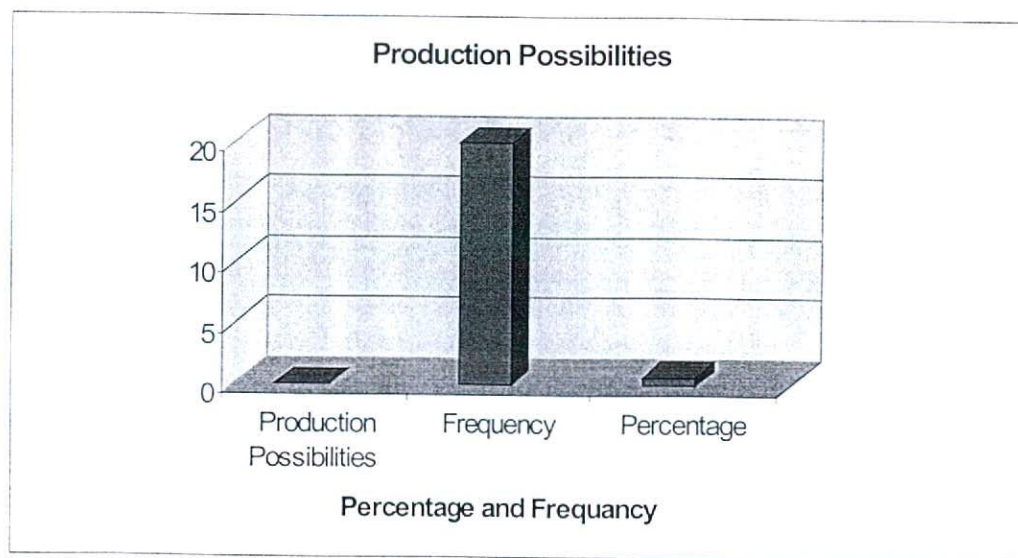
From the expiry of post MFA, some new problems have arisen. In this context, respondents were asked about their present problems that they are facing. The 33.33 % respondents answered that Knit sector is enjoying tremendous growth. But woven sector is facing weaken backward-linkage industry. The 16.67 % respondents said that

they could not establish composite supply chain and adopt new technology due to the higher interest rate. But it is very essential to compete the global market. Another 16.67 % respondents said that per dozen prices have been lower. As a result profit margin is going down. The 6.67 % respondents said that the lead –time is too long for importing raw materials through Back to back L/C. The 26.67 % respondents answered that new salary package has increased production cost.

Table no –40: Cotton production possibilities to strengthen the textile and clothing sector.

Production Possibilities	Frequency	Percentage
Yes	10	33.33 %
No	20	66.67 %

Diagram no –19: Cotton production possibilities to strengthen the textile and clothing sector.



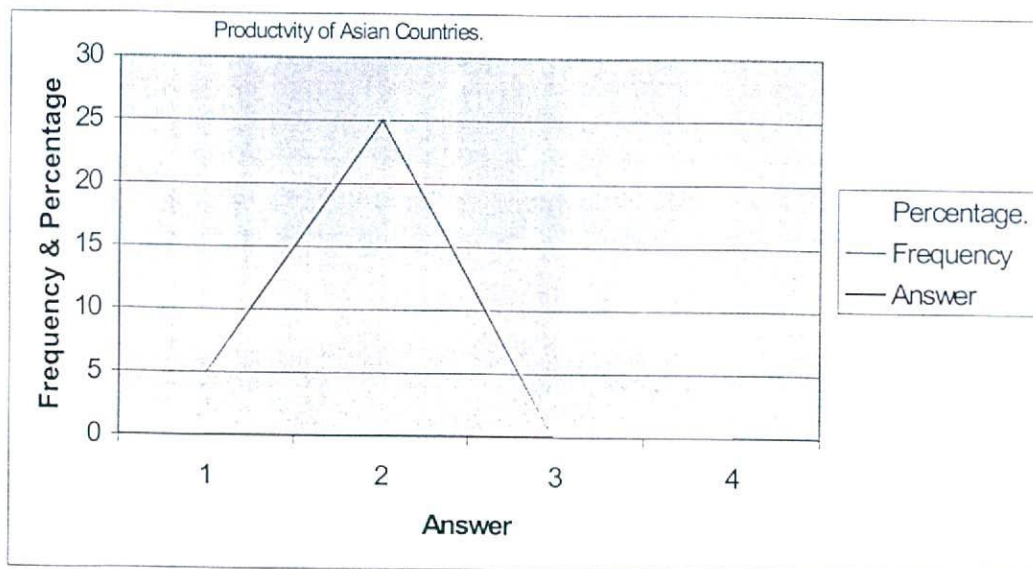
Bangladesh produces Cotton. But it is not sufficient to meet the cotton demand of spinning sector. When the sample respondents asked, the 66.67 % respondents said that negative answer. They answered that the land of Bangladesh is not suitable and cotton cultivation is not so profitable, the opportunity cost is higher of cotton production. But government can provide subsidy to grow more cotton, otherwise production cost will be higher than importing cotton. On the other extreme, 33.33%

respondents answered that cotton production land of Bangladesh can produce 50% of its domestic demand. Government can take necessary steps to increase production. If appropriate steps would be taken, in future Bangladesh will be able to 100% supply domestically. The cotton development board is taking initiative to strengthen the cotton production capability domestically.

Table- 41: Is labor Productivity Higher Among the Asian Countries

Answer	Frequency	Percentage.
Yes	05	16.67 %
No	25	83.33 %

Diagram no – 20: Is labor Productivity Higher Among the Asian Countries



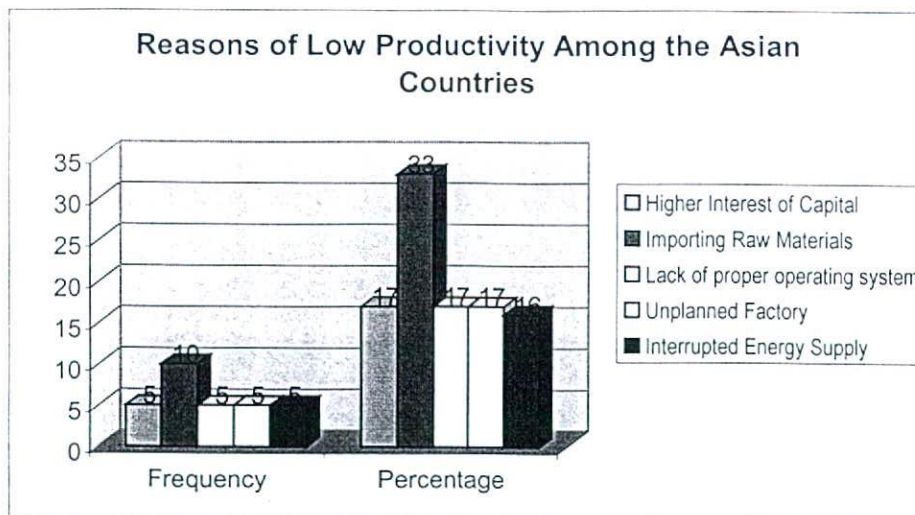
The sample respondents were asked about the highest productive country among the Asian countries in favor of Bangladesh. The 83.33 % respondents answered disfavor

of Bangladesh. Only 16.67 % respondents answered in favor of Bangladesh. The disfavor able respondents said that as partial productivity labor productivity is higher. But capital productivity or total productivity is lower. According their opinions, the labor productivity of Bangladesh is higher and the capital productivity is higher in china among the Asian exporting countries. It is very urgent to increase capital productivity. They said in this context, Bangladesh has to adopt computerized high productive machine as soon as possible. But is a problem of unemployment. Because then production will be capital oriented. In spite of this, if Bangladesh has to survive its RMG industry, the country should more emphasis on new technology as a part of capital productivity to win the Global market through competition.

Table no – 42: Reasons of Low Productivity Among the Asian Countries.

Reasons	Frequency	Percentage
Higher Interest of Capital	05	17
Importing Raw Materials	10	33
Lack of proper operating system	05	17
Unplanned Factory	05	17
Interrupted Energy Supply	05	16

Diagram no – 21: Reasons of Low Productivity Among the Asian Countries.

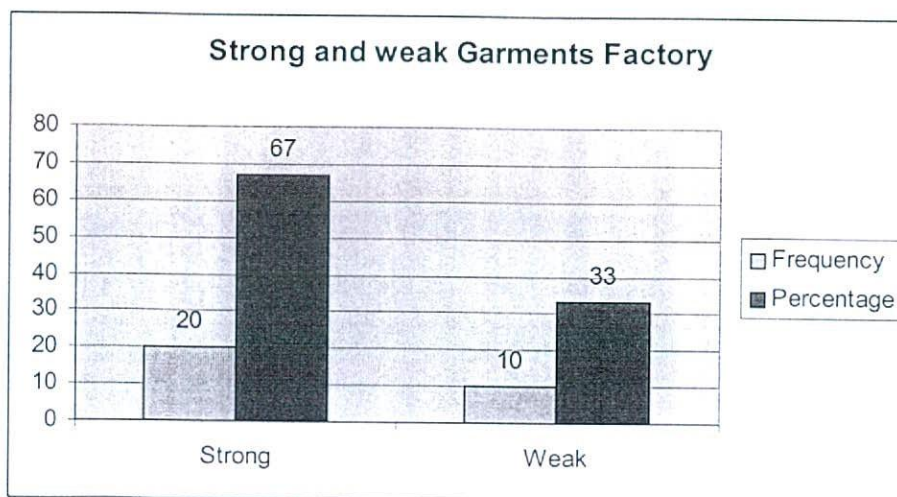


The sample asked about the reasons of low productivity. The 33 % respondents said low productivity is the result of importing raw materials at a higher cost that supply is irregular. It causes inefficient use of production inputs. 17 % respondents said that due to higher interest of capital the factory owners are not adopting new technology and setting up a strong complete supply chain is being interrupted. Another 17 % said production operation management is inefficient. 16 % said that interrupted supply of power is the main cause of low productivity. The rest 17 % respondents answered that unplanned factory is not suitable to increase productivity.

Table no – 43: Strong and weak Garments Factory.

Strong /Weakness	Frequency	Percentage
Strong	20	67
Weak	10	33

Diagram no –22: Strong and weak Garments Factory



The sample respondents asked about the weakness and strength of their factories. The 67 % respondents said their factory is strong and they are capable to face any challenge of global market. But 33 % respondents said that they are weak, they are not getting sufficient order from the buyer due to low production capacity. These factories are working based on sub-contact from larger factories.

Chapter-Seven:

Observations and Tentative Suggestions for Decision Makers.

- **Observations and Problems Identification.**
- **Tentative suggestions for Decision Makers.**
- **Conclusion...**

Observations and Suggestions for Decision Makers:

It has observed several problems of Bangladeshi garment Industry through literature review and analytical collected data. The identified problems during this study period are mentioned below.

1. This study are pointed out that the decent working environment is not satisfactory. Lack of favorable working environment, productivity is not being increased.
2. A structural change has founded during the early stage of post MFA that the woven garments export is sharply declining. But the knit items export is increasing. But the knit items export is increasing gradually. Large scale enterprises and factories that produce for big brands offer better working conditions than smaller factories where efforts to improve compliance with labor standards are still being undertaken core international labor standards have been respected.
3. The technological environment has changed but the factory owners have not yet been adopted. It has found that a high productive new sewing machine named DDL-9000 (Computerized Programmable) introduced by Juki Company, Japan. But lack of enough capital, the factory owners is not adopting this more productive machine.
4. Long –lead time for woven garments: Due to importing raw materials lead-time is too long. On the other hand, additional importing cost is increasing production cost. Than nearest competitors. The amount of time between placement of an order and the receipt of the goods ordered is considered crucial in the fast changing fashion industry. International benchmarking showed that Bangladesh is lagging behind its competitors with generally a lead-time between 120 and 150 days.
5. Lack of proper layout chain based factory, productivity is not being increased. Unplanned factory causes low productivity.

6. Inadequate supply capability of fabrics producing linkage industry for woven garments factories. Due to interrupted fabrics supply results low productivity.
7. Labor cost has increased recently to solve the labor movement for minimum wages. It resulted higher production cost.
8. Operational Planning: International buyer complains about how the garment enterprises organize their production. Actual production capacity is often overestimated hampering realization of orders in time. Related is internal miscommunication between the top management and the production floor.
9. Market Orientation: Many garment companies are dependent on the inputs of the contracting party. Information and knowledge with respect to buyer's behavior, product designs, international fashion trends, positioning and marketing are very limited.
10. Unskilled and illiterate workforces are a constraint to adopt more productive new technology.
11. Backward linkage of woven sector is very weak. This sector can supply only 20-30 % of its total domestic demand. It also causes low productivity and long lead-time.
12. Around 1500 factories are small and sick. Lack of their enough capacity; they are not getting order from the buyers. Major of these factories are sub-contracting factories. Discontinued order causes their inefficient use of production inputs. The productivity of these factories is very low.
13. Export Structure: As garments are the main source of exports the current account is extremely dependent on developments in the garment industry; more generally, this translates into a disproportional economic dependence in terms of exchange rate and balance of payments behavior.

14. Investment Climate: Due to a relatively high corruption and instable political situation the country faces high-risk premiums in international credit markets; hence, local enterprises find it difficult to borrow capital abroad. More importantly, the highly unpredictable climate deters foreign direct investment.
15. Inadequate infrastructure: This is reflected in congestions and customs delays at chittagong port, poor telecommunication, uneven professional office practices and uncompetitive and unreliable energy supply. Inadequate supply of energy interrupted productivity.
16. In every factory, production gap between standard and actual production has founded. Labor absenteeism and turnover rate results this gap. Unskilled labor, disfavor able working environment, lack of proper supervision. Breeding chain of production line, lack of benchmarking are the important reasons of the production gap.
17. Industry Linkages: Forward and backward linkages in the garment industry are not sufficiently established indicating low industrial integration levels. The international trend towards one-stop, where companies provide the customer with a complete service package in addition to sole production, cannot be fully exploit.
18. From the expiry of quota restriction, per dozen garments of different items have decreased in the global competitive market.
19. Pollution management is an important constraint of setting up the dyeing, printing and finishing industry to support the garment industry. Because it requires huge investment that affect the fabrics production cost.
20. Major problems of the Primary Textiles Sector (PTS): There exists a misconception that there is a conflicting interest between the PTS and the Export-oriented RMG units. Actually the success or failure of these two sectors is interrelated. PTS suffers from a number of defeats that are

hampering its growth and deterring it from playing the desired supportive role to RMG units. Those are enumerated below.

- a. The entrepreneurs are discouraged to invest in PTS due to very high debt-equity ratio.
- b. The long-term interest rates on loan for new industries in Bangladesh are very high Bangladesh 9-12 %, Pakistan 5 %, and India 6 % compared to competing countries.
- c. Till date no fund for assistance to textile sector has been created.
- d. Leakage from bonded warehouses and smuggled fabrics deter the growth and development of PTS.
- e. Due to provision of subsidy and other incentive at different stages of production process by the competing countries, their PTS products are more competitive than Bangladesh in the international market.
- f. Dearth of trained manpower of international standard.
- g. Poor labor productivity and inconsistency in the quality of textile products. Our products are uncompetitive in international market even though the labor costs are low.
- h. Due to operation of absolute production techniques and acute shortage of technically sound manpower, weaving and weaving dyeing finishing sub-sector could not make significant headway.
- i. Production capacity of old mills is extremely low due to use of absolute technology. This was compounded by poor quality of manufacture.

Tentative Suggestions for the Decision Makers

To establish a strong backward-linkage and increase productivity the following measures need to implementation.

1. The main production factor as capital is not enough to strengthen the backward-linkage of export oriented garment industry in Bangladesh. So that, foreign investment is a crucial. In this connection, Government of Bangladesh has to provide attractive incentive and facilities to encourage foreign investment to backward-linkage industry.

2. All political parties will try to understand that export-oriented garment industry is a very important industry in the national economy of Bangladesh. There is greater opportunity to industrialize the country through establishing backward –linkage industries. For the greater interest of the country, political parties should ensure a political stability. If it is possible, the backward-linkage industry will be well established and productivity will increase. On the other hand, political lobbying is the important strategy for favorable marketing. The government of Bangladesh should take initiative to get duty free market access to different markets. In the modern world, for favorable market opportunities it is very essential to build profitable relationship with the importing countries. The political parties ensure a national political consensus that the textile and clothing industry will remain unconditionally unaffected under any political circumstances.
3. To produce garments at a lower production cost to win the competitiveness, Bangladesh has to enlarge its EPZ area where composite textile and clothing could be established. Because, in the chapter-five shown that the production cost differences between the composite factory and independent factory. The composite factory can help to increase bargaining power to the global market. In any competitive market, to achieve cost leadership is better strategy to win the target market. The independent stages of primary textile or backward-linkage industries sell their outputs as the raw materials at a profit. So those profit margins at every stage maximize the production cost of the finished goods.
4. Technological environment is always changing. Factory owners should adopt their overall production technology to increase productivity. Chapter five shown that what changes have been occurred and what is the benefit of the new computerized programmable machine. In this connection, govt. should finance at a liberal rate of interest. Because, the new technology is very much expensive. The competitors are rapidly adopting new technology to increase their productivity. So that, there is no alternative to increase productivity like nearest competitors without adopting new technology.

5. Financial crisis is a major problem directly or indirectly to increase productivity. To solve this problem the following financial measures should be taken.

- Providing financial, legal, institutional and all other support for backward-linkage industries in the export-oriented RMG sector, so that this sector can be relatively independent from import and improve its competitiveness in the international market.
- Exempting taxes and VAT for RMG exports, so that the exports can become more competitive in the international market.
- Providing long term Tax Holidays to encourage new national and foreign investment in the export-oriented RMG sector.
- Carefully adjusting the exchange rate of the national currency to the currencies of the international competitors so that national economic development is not affected but the export-oriented RMG sector gets the necessary financial incentives and the support.
- Making value addition for high value items flexible, so that high valued RMG can become competitive in the international market.
- Removing all anomalies from the functions of the banks and introducing the following steps to support export-oriented garment industry in Bangladesh.
 - o Requirement of obtaining approval from Bangladesh Bank for the issuance of Forced/demand Loan by the lien banks should be withdrawn.
 - o Back-to-Back PAD/Forced Loans should not be considered as default loans. Loans of this nature should be converted into interest-free block Accounts and amortized against future export proceeds.
 - o Overdue FBP created against the liability of any V C should also not be considered as default loans.
 - o Mandatory compulsions set forth in the ECG policy should be waived.
 - o Procedure of obtaining prior permission from Bangladesh Bank for exporting goods against stock-lot should be withdrawn.

- o Negotiating Banks should be authorized to consider discounts up to 20%.
 - o Condition for obtaining approval for discount from the Bangladesh Bank should be relaxed and discount approved by the EPB should be treated valid.
 - o Forty-five days, from the date of document negotiation, should be allowed for fund remittance. Overdue interest should not be charged in the event that the remittance is delayed.
 - o Private commercial banks should immediately cease charging "VC Acceptance Charges" as done by the Nationalized Banks of the country.
 - o Laws should be enacted announcing that the Banking companies act passed by the Jatiya Sangshad on 13 the March 1997 is not applicable to the export-oriented readymade Garment Sector of the country.
 - o Working out policies in co-operation with BGMEA providing cash support to encourage better export performance.
6. Power supply is a regular constraint to enhance productivity. Introducing measures to ensure uninterrupted power supply to all export-oriented garment factories, so that they can operate normally and at its full potential and capacity. The efficient use of labor, land, and capital depends on stand by power supply.
7. Freeing the custom procedure from all anomalies and corruption.
8. Computerized customer services and equipping with a modern communications system to ensure prompt services.
9. Integrating BGMEA representatives in the Board of the nationalized Banks to ensure prompt financial operation in the export-import business of the export-oriented RMG enterprises and to speed up and promote investment in the export-oriented RMG sector. Providing the export-oriented RMG sector

similar facilities given to the enterprises in the EPZ, because in fact there is no difference between these two groups of enterprises. Establishing RMG villages so that unhindered operations of the export-oriented RMG enterprises can be ascertained and the productivity increased by providing healthy accommodation to the employees of these enterprises. This will help keep the capital city free from environmental pollution. Which is partly done by these enterprises. This will also relieve city from the unbearable traffic jam. As a part of political measure, forming a Cabinet committee headed by the Hon' able Prime Minister, which should meet quarterly to solve especially unforeseen problems of the export oriented RMG sector instantly.

10. Creating educational facilities for the labor force from export-oriented RMG enterprises. Providing training opportunity for labor and management from export-oriented RMG sector. Organizing workshops, seminars and symposiums to explain the necessity and importance of discipline, qualified workers and improved productivity for sustainable long-term export. The workers should understand about the relationship between the economic development and their survival life.
11. New product development is process by which a company can improve productivity. There are several types of new products. Continuous changing design of a garment can create more demand through shifting needs. It creates new opportunity to more production by using same inputs. On the other hand, developing new process of technical know how may help to enhance productivity. The new innovative process of production may be more productive than previous productivity. In spite of this, improvement of present production process can also increase productivity. As a result, production cost reduces and it helps to win foreign market.

Conclusion:

The export -oriented garment industry is the principal foreign currency earning industry that is playing an important role in the economic development of Bangladesh. But there was a great threat on this industry that what will be after the phasing out of MFA. The specter of china gobbling up the global market, smaller countries without orders like Bangladesh is almost over. Because china itself putting a break on their exports for overheating. On the other hand, as a major buyer USA is applying a special clause to retain categories to check the unlimited Chinese imports. In this context, a question asked to Mr. Reaz (who is the first exporter of Bangladesh) about the future of this industry. He dispels any apprehension of the collapse of the Bangladeshi Garment Industry. Instead of this, he said that the exporters and the buyers take it as an opportunity because; they could increase their exports that were guided by quota restriction before the expiry of MFA.

The post MFA performance of this industry is at a satisfactory level. Total exports have increased. Knit garments industry is enjoying a tremendous growth. The exports of this garments is increasing gradually but woven garments export is sharply decreasing. The major problem of this post MFA affect is weakened Backward-Linkage industry of this sub sector. The identified problem is imported fabrics. Most of the exporters are importing their raw material from their nearest competitive countries through back to back L/C. It causes too long lead-time. Only due to this reason buyer are consolidating their sourcing countries where shorten lead-time is available. On the other extreme, knit sector has established a strong and well backward-linkage industry. And most of the factories are composite category. The larger buyers are narrowing their sourcing countries keeping Bangladesh among top ten suppliers as they can produce quality garments at a lowest cost. The current status of the export oriented garment industry is satisfactory. But profit margin of per dozen garments is decreased.

On the basis of above discussion, Bangladesh has to established strong Backward Linkage Industry especially for the woven sector set up composite textile like china. If it is possible, Bangladesh could increase productivity. As a result, production cost and lead-time will bring down. Then the country will be able to achieve cost leadership to

the global market. This competitiveness will help Bangladesh to continue the export business in the international competitive market. The cheap labor advantage and increasing productivity through establishing backward-linkage industry will be the long-term competitiveness to win major market.

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