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SUMMARY OF PREVIOUS TEXTILE STUDIES

TEXTILE INDUSTRY OF PAKISTAN PROBLEMS AND RECOMMENDATIONS: MR. MUHAMMAD HUSSAIN
DEVELOPMENT OF A MARKET BASED STRATEGY FOR THE PAKISTAN TEXTILE AND CLOTHING INDUSTRY:
GHERZI TEXTIL ORGANISATION
SUGGESTIONS AND RECOMMENDATIONS MADE BY THE JICA STUDY ON PAKISTAN TEXTILE INDUSTRY -
1992

MINUTES OF MEETINGS

STAPLE FIBRE, FILAMENT YARN AND MAN MADE FABRIC GROUP
CHEMICAL AND DYES MANUFACTURERS
WEAVING & PROCESSING SECTOR
WEAVING/PROCESSING SECTOR
BEDWEAR/MADE-UPS SECTOR
BEDWEAR/MADE-UPS SECTOR
TOWELS & INDUSTRIAL TEXTILES MANUFACTURERS AND EXPORTERS
TOWELS & INDUSTRIAL TEXTILES SECTOR
KNITWEAR INDUSTRY
KNITWEAR AND HOSIERY
WOVEN GARMENTS
WOVEN APPAREL
MEETING WITH CBR
APTMA MEETING
COTTON GROWERS, GINNERS & APTMA
COTTON GROWERS, GINNERS & APTMA MEETING

FINANCIAL VIABILITY OF TEXTILE SECTOR IN PAKISTAN

SPINNING INDUSTRY
WEAVING INDUSTRY
STITCHING INDUSTRY

BIBLIOGRAPHY



Definitions

Technical Definitions

- 1.1. Acrylic** Acrylic is a synthetic fibre mainly used in men's women's and children's clothing as well as hosiery.
- Agronomic Practices** Different methods used for crop cultivation , irrigation etc.
- Bale** The unit of weighing cotton. In Pakistan the standard weight of a bale is equal to 170 Kg of lint.
- Bleaching** Bleaching is the process of improving the whiteness of textile material, with or with out the removal of natural colouring matter and / or extraneous substances, by a bleaching agent.
- Blended Cloth** *Fabric made of more than one type of yarn. Usual practice in Pakistan is to mix cotton yarn with manmade yarn like polyester or viscose.*
- Blending** Blending is the process primarily concerned with efficient mixing of various lots of fibres. Blending is normally carried out to mix fibres, which may be of different physical properties, market values, or colours.
- Boll** The fruit of cotton bearing seed.
- Burs** The woody structure of boll rind that remains with plant after picking.
- Calendering** The process of passing fabric through a calendar in which a highly polished, usually heated, steel bowl rotates at a higher surface speed than the softer bowl against which it works, thus producing a glaze on the face of the fabric that is in contact with the stress bowl. The friction ratio is the ratio of the peripheral speed of the faster steel bowl to that of the slower bowl and is normally in the range of 15 to 3.0.
- Colored Cotton** Cotton other than white colour of lint
- Combed Yarn** Combed yarn is the yarn produced from fibres that have been carded and combed.
- Combing** Combing is the process of straightening and paralleling of fibres and the removal of short fibres and impurities by using a comb or combs assisted by brushes and rollers.
- Cotton Breeding** Method of producing new varieties of cotton by crossing two different plants or selecting the better plant. .
- Cotton Fiber** Outer growth of epidermal cells on the cottonseed.
- Cotton Seed** Cotton seed separated after ginning
- Cotton Variety** Obtained from cotton seeds having different characteristics
- Count** Count is the measure of fineness of yarn. The higher the count the finer is the yarn. Count is a ratio of length per unit weight. One count represents a length of 840 yards from one pound of any fibre.
- Dehulling** The process of removing seed coat from the seed.
- Delinting** The process of removing linters or fuzz from the cottonseed.
- Denier** Denier is a ratio of weight to length. The weight in grams of 9000m of filament yarn is one Denier. This measure is still commonly used in the USA, but in the metric system, Tex has generally replaced it.

Definitions

Denim	Denim gets its name from the city of Nimes. It is a very strong cotton material made from a twill weave., usually the warp is dyed indigo blue and the weft in accrue or bleached. With the same weft the warp can also be black
Desizing	The removal of sizing agents from fabric.
Differential Dyeing	Differential dyeing represents dyeing of those fabrics, which are of the same generic class, but have different dyeing properties from the standard fibre.
Direct Dye	Direct dey is an anionic dye used for cellulose fibres. The dyes are normally applied from an aqueous dyebath containing an electrolyte.
Disperse Dye	Disperse dyes is a family of dyes that are substantially water soluble and are used for hydrophobic fibres, e.g., cellulose acetate and usually applied from fine aqueous dispersion.
Ecrú	Ecrú is a term used in knitting for fibres, yarn or fabrics that have not been subjected to processes affecting their natural colour.
Emboss	Emboss is a process to produce a pattern by passing fabric through a calender in which a heated metal bowl is engraved with the pattern and works against a relatively soft bowl.
Entomology	Plant protection from pests
Fabric	Fabric is a manufactured assembly of fibers and/ or yarns that has substantial surface area in relation to its thickness and sufficient mechanical strength to give the assembly inherent cohesion. Fabric are most commonly knitted or woven, but the term includes assemblies produced by lace-making, tufting, net-making, and the non-woven processes.
Fabric Length	Fabric length is the usable length of a piece between any marks, piece-ends, or numbering when the fabric is measured laid flat on a table in the absence of tension.
Fabric Width	Unless otherwise specified, the distance from edge to edge of a fabric when laid flat on a table without tension. In the case of commercial dispute the measurement should be made after the fabric has been conditioned in a standard atmosphere for testing. When buying and selling fabric it is normal to specify the basis on which the width is to be assessed e.g. overall within limits, or usable width (which implies within stenter length).
Fiber Fineness	Physical property of fibre, which determines the spinning value of a cotton variety, measured in micronaires.
Fiber Strength	Measure of physical strength of fibre , measured in two different units i.e. g/tex(gram per tex), TPPSI (thousand pounds per square inch)
Fiber Maturity	Index of fiber development
Filament Blend Yarn	A filament yarn which contains separate filament of two distinct types., the filaments being more or less randomly blended over the cross section of the yarn.
Filament Yarn	A yarn composed of one or more filaments that run essentially the whole length of the yarn. Yarn of one or more filaments are usually referred to as monofilament or multifilament respectively.
Flat Knitting Machine	Flat knitting machine is a weft-knitting machine having straight needle

Definitions

beds carrying independently operated latch needles. Rib knitting machines have two needle beds, which are opposed to each other in inverted-V formation.

Fleece Fabric A weft knitted fabric composed of three separate yarns; a ground yarn of normal count, a finer binding yarn, and a thicker fleecy yarn which is held into the fabric at close intervals by the binding yarn. The fleecy yarn appears on the back of the plain knitted fabric and presents an ideal surface for brushing and raising.

Ginning. The process of removal/separation of cotton lint from the seed.

Greige Greige or grey fabrics are woven or knitted fabrics as they leave the loom or the knitting machine, i.e., before any bleaching, dyeing or finishing treatment has been given to them.

Hosiery Hosiery is the group of apparel that includes coverings for the feet and legs.

Hull. Outer most covering of the seed (seed coat) which bears lint and linters(fuzz)

Impregnated Fabric A general name for all types of printed fabric.

Jersey Jersey is a knit material with very fine stitches and has always been widely used in hosiery and in upper garments.

Khaki A fabric with a light brown color, made from cotton or wool, with a plain or twill weave.

Knit Knit is a process to form a fabric by intermeshing the loops of yarn.

Knitwear Knitwear is a term applied in the generic sense to all knitted outer garments except stocking and socks.

Lint The long seed coat fibers, which are spinnable.

Linters The short fibers, which are left on the seed after ginning. It is also called fuzz.

Lycra A registered trade mark of Dupont de Nemours (USA). This is the material most often used in form-fitting garments. LYCRA is a synthetic fibre of elastic origin and allows for the creation of clothing that follows the forms and movements of the body.

Mercerisation Mercerisation is a treatment of cellulose textiles in yarn or fabric form with a concentrated solution of caustic alkali whereby the fibres are swollen, the strength and the dye affinity of the materials is increased, and the handle is modified.

Micronaire Unit used to determine fiber fineness

Neps Small entangled mass of fibers in lint, measured in terms of neps per gram of lint.

Nylon Nylon is a synthetic textile from the polyamide family. Nylon is characterised by its resistance to wear and abrasion., its elasticity and easy care.

Pesticides /Insecticide Chemicals used for pest control

Phutti Cotton fiber with seed

Piece Dyeing Piece dyeing is dyeing in fabric form.

Definitions

- Pique** Pique is the most used knit fabric in Pakistan Knit industry. Generally known, as PK is a fabric with a raised and textured pattern. It is usually made from cotton. Ribbing of varying widths and textures is the most common pattern, but one can also find honeycomb, diamond-shaped or other designs. Pique is used for clothing (dresses, blouses etc) and trimmings i.e. collars, cuffs and borders.
- Plain Weave** Plain weave is a fabric that has woven 1 end up, 1 end down. Men's dress shirts are generally of plain woven fabric.
- Polo** Polo is a light cotton material made from a relatively loose gauze weave and is used to make sports shirts.
Polo is also a style of T-shirt.
- Polyester** Polyester is synthetic fibre obtained by the polymerisation of petrochemical substances.
- Printing** Printing is the production of a design or a motif on a substrate by the application of a colorant or other reagent, usually a paste or ink, in a predetermined pattern.
- Raising** Raising is the production of a layer of protruding fibres on the surface of fabrics by brushing, teasing or rubbing.
- Reactive Dye** Reactive Dyes are the dyes that, under suitable conditions, are capable of reacting chemically with a substrate.
- Ribbing** A supple, elastic knit band with ribs which is used at the openings of sleeves, legs and waistbands of certain sportswear articles.
- Roller Gin** Machine with two rollers, used for ginning of long staple cotton.
- Rotor Spinning** A method of open end spinning which uses a rotor to collect a individual fibre into a yarn. The fibre on entering a rapidly rotating rotor are distributed around its circumference and temporarily held there by centrifugal force. The yarn is withdrawn from the rotor wall and, because of the rotation the twist is generated.
- Saw gin** Machine with gin saws (blades with tiny saws) used for ginning
- Scouring** Scouring is the treatment of textile materials in aqueous or other solutions in order to remove natural waxes, proteins and other constituents, as well as dirt, oil and other impurities.
- Screen Printing** Screen-printing is a design reproduction process, developed from stencilling, in which print paste is forced through unblocked areas of a mesh, in contact with the substrate. The substrate can be a woven fabric or a fine screen, flat or cylindrical (rotary screen). Pressure is applied to the paste by a squeeze (blade roller), which is moved when the screen is stationary or stationary when the rotary screen is rotating.
- Seed Cotton** Raw cotton, fibers along with cotton seed also called Phutti
- Singe** Singe is to remove, by burning against a hot plate, in a flame, or by infra red radiation, unwanted surface hairs or filaments. The operation is usually performed as a preliminary to bleaching and finishing.
- Single Yarn** A thread produced by one unit of a spinning machine
- Spinning** Spinning is the process or the processes used in the production of yarns or

Definitions

filaments.

Spun Yarn	The term is commonly used to describe a yarn that consists of staple fibres held together by twist.
Staple Fibre	Staple is Fibre of short lengths, and can be both natural and Manmade.
Stenter	Stenter is an open width fabric-finishing machine in which a pair of endless travelling chains maintaining weft tension holds the selvages of a textile fabric.
Substantivity	Substantivity is a technical term meaning the attraction between a substrate and a dye or other substance under the precise conditions of test whereby the later is selectively extracted from the application medium by the substrate.
Sueding	Sueding is a finishing process during which the fabric is passed over abrasive rollers producing a short nap. Sueding is different from brushing.
Synthetic Fibre	A man-made fibre produced from a polymer built by man from chemical elements or compounds, n contrast to fibres made by man from naturally occurring fibre-forming polymer.
Terry Cloth	A fabric made from a special thread formed by looping one thread around another. It is used for coats and suits.
Terry Towelling	Is an absorbent material with loose, uncut loops. It is used for bath towels, bathrobes etc.
Textile	The term textile is now applied to fibres, filaments, or yarns, both natural and man made , and the products obtained from them.
Textured Yarn	A continuous filament yarn that has been processed to introduce durable crimps, coils, loops or other fine distortions along the length of the filaments.
Trash	Different foreign materials in cotton fiber.
Tubular	Tubular is a cloth that is woven or knit in a tubular formation.
Twill	Twill is a woven fabric with a diagonal ridge. Example is a Denim fabric.
Viscose	Viscose is a synthetic textile material of continuous threads. It is widely used for clothing and upholstery.
Warp Rib	Warp rib is a lightly ribbed fabric that is used for men's and women's clothing.
Weave	Weave is the pattern of interlacing of warp and weft in a woven fabric. Weaving is the process that produces fabric by interlacing warp and weft threads.
Weaving	Weaving is a method of crossing the warp and weft threads to produce certain aspect (plain, satin) or to form a design visible on the surface of the cloth. Certain important forms of weaving are plain weave, twill weave and satin weave.
Yarn``	Yarn is a product of substantial length and relatively small cross section consisting of fibres and/or filament(s) with or without twist.

Abbreviations

List of Abbreviations

AD	Anti Dumping
AEPC	Apparel Export Promotion Council
APTMA	All Pakistan Textile Mills Association
ASEAN	Association of South East Asian Nations
ASTM	American Society For Testing Materials
ATC	Agreement on Textiles And Clothing
ATMI	American Textile Manufacturing Institute
BD TK	Bangladeshi Takka
BMR	Balancing Modernization And Replacement
CAD	Computer Aided Designing
CAGR	Compounded Annual Growth Rate
CAM	Computer Aided Manufacturing
CBR	Central Board of Revenue
CCRI	Central Cotton Research Institute, Multan.
CEC	Cotton Export Corporation
CIM	Cotton Institute Multan.
CIS	Commonwealth of Independent States
CITA	Committee For Implementation of Textile Agreement
CLCV	Cotton Leaf curl virus
CLSP	Count Lea Strength Product
CMT	Cut, Manufacture
CTG	Council on Trade In Goods
CVD	Countervailing Duties
DEPB	Duty Entitlement Pass Book
DOZ	Dozen
DPR	Dozen Pair
DSB	Dispute Settlement Body
EDF	Export Development Fund
EDI	Electronic Data Interface
EOBI	Employees Old Age Benefit Institution
EOU	Export Oriented Units
EPB	Export Promotion Bureau
EPB	Export Promotion Bureau
EPC	Export Promotion Council

Abbreviations

EPCGS	Export Promotion Capital Goods Scheme
EPOS	Electronic Point Of Sale
EPU	Export Processing Unit
EPZ	Export Processing Zone
ESSI	Employees Social Security Institution
ETP	Effluent Treatment Plant
EU	European Union
EUR	Euro
FAO	Food and Agriculture Organisation.
FBS	Federal Bureau Of Statistic
FCFS	First Come First Serve
FOB	Freight On Board
FTTA	Free Trade Area
GATT	General Agreement on Trade And Tariff
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GOT	Ginning out turn.
GSP	Generalised System Of Preferences
HTS	Harmonized Tariff Schedule
HVE	High Value Entitlement
ICI	Imperial Chemical Industries
IMF	International Monetary Fund
IRR	Internal Rate of Return
ISO/BIS	International Standard Organisation/British Institute of Standards
IT	Information Technology
ITC	International Trade Center
ITCB	International Textile And Clothing Bureau
ITMF	International Textile Manufacturer Federation
JICA	Japan International Cooperation Agency
JIS	Japanese Inspection System
KCA	Karachi Cotton Association
KDTC	Korean Dyeing Technology Institute
KT	Kilo Tonne
L/C	Letter of Credit
M&B	Men and Boys

Abbreviations

M2	Meter Square
MEE	Manufacturer Exporter Entitlement
MEG	Mono Ethylene Glycol
MFA	Multi Fiber Arrangement
MINFAL	Ministry of Food, Agriculture and Livestock.
MMF	Man Made Fiber
MMF	Man Made Fabric
N.A	Not Available
NAFTA	North American Free Trade Area
NARC	National Agriculture Research Center
NDND	No Duty No Drawback
Nes	Not Elsewhere Specified
NIAB	Nuclear Institute of Agriculture and Biology
NIBGE	Nuclear Institute of Bio-Technology and Genetic Engineering
NIE	New Investor Entitlement
NIFT	National Institute Of Fashion Technology
NQE	Non Quota Entitlement
NWFP	North-Western Frontier Province
p.a	Per Annum
PARC	Pakistan Agriculture Research Council
PC	Polyester Cotton
PCCC	Pakistan Central Cotton Committee
PCSI	Pakistan Cotton Standard Institute
PCTAS	Personal Computer Trade Analysis System
PEE	Power Loom Exporter Entitlement
PPE	Past Performance Entitlement
PPT	Past Performance Transfer
PRGTTI	Pakistan Ready Made Garments Technical Training Institute
PTA	Purified Terephthalic Acid
PV	Polyester Viscose
PVA	Poly Vinyl Alcohol
QSC	Quota Supervisory Council
R&D	Research and Development
REG	Ready Goods Entitlement
RMG	Ready Made Garments

Abbreviations

SIGL	Systeme Integre De Gestion De Licenses. (Integrated System Of Quota Licensing)
SIL	Special Import License
SITC	Standard International Trade Classification
SME	Small and Medium Enterprise
SMEDA	Small and Medium Enterprise Development Authority
SOE	State Owned Enterprises
SRO	Statutory Regulatory Order
SWOT	Strength, Weaknesses, Opportunities And Threats
SYN	Synthetic
TCO	Textile Commissioner's Organization
TCP	Trading Corporation of Pakistan
TEVTA	Technical Education and Vocational Training Authority
TIP	Textile Institute Of Pakistan
TM	Twist Multiplier
TMB	Textile Monitoring Body
TPI	Twist Per Inch
TPRB	Textile Policy Review Body
TQMD	Textile Quota Management Department
TUF	Technology Up-gradation Fund
TWN	Third World Network
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNSD	United Nations Statistical Department
UOM	Unit Of Measurement
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture.
VAT	Value Added Tax
VIU	Virtually Integrated Units
W&G	Women and Girl
WTO	World Trade Organization

Introduction

Textile industry has been the bulwark of Pakistan's economy. It contributes more than 60% to the total export earnings of the country, accounts for 46% of the total manufacturing and provides employment to 38% of the manufacturing labour force. The availability of basic raw material for textile industry, cotton, has played a principal role in the growth of the industry.

Although the growth in the textile sector has been impressive during the four decades after independence (with an imbalance in favour of low value added products), stagnation has set in due to certain changes in the global and the domestic factors. With the movement of textile production from developed countries towards less developed countries, Pakistani producers are losing their competitive advantage. During the nineties a combination of factors adversely effected the industry, mainly:

- ❑ Removal of export duty on raw cotton, increasing domestic prices to international levels and beyond.
- ❑ Infestation of the cotton crop by leaf curl virus, reducing supply sharply and increasing prices.
- ❑ Frequent changes in governments creating inconsistency in policies of the Government and Financial Institutions.
- ❑ Rapid expansion of the installed industry in the hands of new entrants who did not have the managerial skills or the liquidity base to succeed.
- ❑ Rapidly changing global markets, especially the shift towards man made fibres.

As a consequence, many textile units fell sick creating a huge infected loan portfolio with the banks. In reaction, the banks withheld funding the textile industry either for BMR or expansion. This restraint was exacerbated by State Bank's tightening of the Prudential Regulations. The industry was unable to keep pace with technological advancements and began to lose out on competitive advantage. Its survival became dependent upon availability of quotas and regulatory protections granted to it by the Government.

Terms of Reference

Imperatives for Developing a Long Term Textile Policy

- a. Pakistan's economy is confronted with the problem of chronic negative trade balances. The government wants to mobilise all its resources to establish a solid export base. Textile sector being the major foreign exchange earner can serve as a launch pad.
- b. The textile sector exports have been stagnant for the past five years. Exports have oscillated between US \$ 4.5-5.5 billion. US \$ 5 billion has been a psychological barrier for the textile industry of Pakistan.
- c. The Multi Fibre Arrangement (MFA) phase out in the year 2005 is likely to result in providing level playing field with the removal of quotas and lowering of tariff barriers. It will be a threat to textile manufacturers on one hand and open new vistas of opportunities for the efficient players on the other hand.

Task of Formulating Long Term Textile Policy

Mr. Razak Dawood, Minister for Industries and Commerce delegated the responsibility of managing and supervising the formulation of the textile policy to a private sector leading entrepreneur Mr. Tariq Sayeed Saigol, who was formally made the Chairman of the Sub-Committee on textiles. It was also decided that

the Small and Medium Enterprise Development Authority (SMEDA) will provide support to the sub-committee in formulating the policy and conducting the study.

The objectives of formulating the long-term textile policy had to be set up-front so as to enable the sub-committee to maintain its focus. Therefore, a vision was created to serve as a broad target to aim for.

TEXTILE VISION 2005

An open, market driven, innovative & dynamic textile sector which is:

- ◆ Internationally Integrated
- ◆ Globally Competitive
- ◆ Fully equipped to exploit the opportunities created by the MFA phase out

And which enables Pakistan to be amongst the top five textiles exporting countries in Asia

The vision statement was presented in the first meeting of the textile sub-committee in Islamabad held on January 25, 2000. The meeting was presided over by the Minister of Industries and Commerce, Mr. Razak Dawood. The participants of the meeting included sub-committee members, industry stakeholders representing all the sub-sectors of textiles and Government officials. The vision statement was unanimously accepted and approved by the participants of the meeting.

Past References

The Government has sponsored studies on the development of the textile sectors in the past. Some of the most important and recent studies on the subject served as reference points in the textile strategy formulation. These included the following reports.

The JICA Study on Textile Sector of Pakistan (July 1992)

The objective of the study was to formulate a master plan for the promotion and development of the textile industry and to make detailed recommendations based on the analysis of the actual supply situation and market requirements. The focus of the study is the technological and the quality aspect in the supply chain, where a number of problems have been identified and their remedies suggested. Human resource development needs have been highlighted and the impediments to this end have been discussed. Different regulatory retardants are also highlighted.

Development of Pakistan's textile sectors has been linked to the following interventions:-

- a. Liberalisation of regulatory structure for imports of inputs for the garment industry.
- b. Upgradation of technology and implementation of quality standards across the textile value chain.
- c. Restructuring of human resource development centers for labour and management cadres to meet the modern advancements in the industry.
- d. Market exploration specially for Japanese markets.
- e. Regulatory support measures to mobilise local & foreign investments in the textile sector.

Development of a Market Based Strategy for the Pakistan Textile and Clothing Industry. Gherzi Textile Organisation 1993

The Gherzi study is different from other research efforts on textile sector in the sense that it has tried to address the issues related to export marketing and competitiveness of the industry through analyzing its existing state and future market demand.

Important findings of the study included

- ❑ Limited product base of the textile industry,
- ❑ Absence of research and development
- ❑ Poor of service offered to buyers such as time reliability and order assortment.
- ❑ The dependence of downstream textile industry on a narrow based product range of the upstream industry like spinning and weaving.

To address these issues it is recommended that the garment industry should be further strengthened, imports of inputs be liberalised, stability of fiscal measures be ensured through long term policy. The report has emphasised the importance of marketing to promote exports. In this context measures have been recommended to strengthen the role of existing public sector marketing networks. The aspect of human resource development has been focussed through highlighting the areas that require managerial training and skill enhancement.

Long Term Strategy for Restructuring of Textile Industry in Pakistan: National Commission on Textile Industry, 1999

The report derives its basic recommendations from earlier research studies conducted on the textile sector of Pakistan. It contains a SWOT analysis on the textile industry which describes certain facts including the high dependency of the industry on cotton, high input costs like fuel and electricity, high interest rates, and the regulatory controls on raw materials and exchange rate regime in the country. Inconsistent Government policies are also mentioned as a contributing factor towards the slow growth in the industry.

The recommendations of the study included up-gradation of the small and medium sized enterprise in the textile value chain. It has been advised that formal funding should be provided to shuttle-less loom sector which is likely to play an instrumental role in the apparel industry development. To enhance the competitiveness of the industry it is recommended that the tariff structure should be rationalised. The study also stresses the need to ensure consistency in Government policy, so that lop sided growth of the textile sector is discouraged.

Product diversification has been emphasised as the key to growth of textile exports.

Common Findings and Recommendations

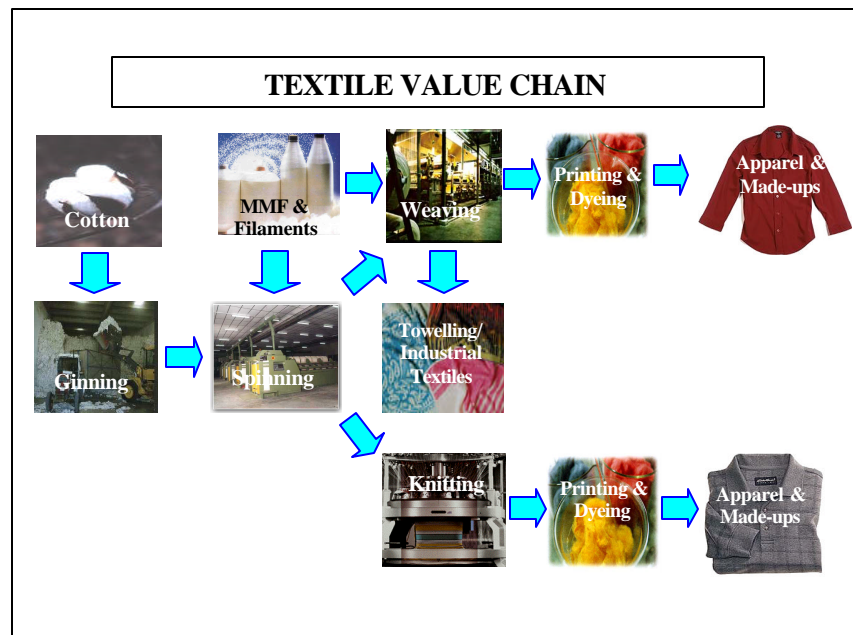
An important feature of all of these reports is that they have emphasised the need to make the apparel sector strong enough to lead the thrust of textile growth. These have also mentioned the importance of raw material/inputs availability to the local industry across the textile value chain at international prices to remain competitive. Interventions to remove regulatory irritants impeding the industrial growth have been identified and measures have been outlined to bring about a positive change. All the above mentioned reports unanimously stressed upon the need to up-grade technology and enhance the marketing activities and support. Summary of these reports is attached as an annexure to the report.

Modus Operandi

In order to formulate a long-term textile strategy and recommend policy interventions, it was vital to conduct a thorough analysis across the textile value chain. The textile sector consists of numerous sub-sectors, each having its own distinct characteristics based on the types of inputs, technology and human resource requirements.

The diversity of sub-sectors, starting from cotton and man-made fibres through garments and made-ups at the end of the value chain, required that a multi dimensional approach of sectoral analysis be adopted.

Given the time constraint it was necessary to proceed at a fast pace without compromising the quality of the study. The basic framework of the research work included the following steps.



Primary Research

To develop an understanding about the dynamics of a particular sub-sector, primary research was conducted which included industry visits, across the textile value chain and brain storming session with the stakeholders. The stakeholders representing different textile sub-sectors were invited to express their views about the existing state and the future of the textile industry in Pakistan. These discussions provided the food for thought and helped in short listing the priority areas of research. This process also enabled the SMEDA textile team to get first hand information on each of the sub-sectors.

Secondary Research

Besides collecting functional statistics and information on textile sub-sectors, numerous sources were consulted to get consolidated and authentic information on the local as well as the global textile industry. This was essential to conduct trend analysis regarding the global textile trade and to benchmark domestic textile industry against that of other competing countries. For this purpose publications and data bases of international organisations like UN, WTO and the USA Commerce department were consulted and used for reference purposes. Numerous journals on textiles and a large number of local publications were also used during the research process.

Areas of Research

The sectoral research was conducted by taking into consideration all the important aspects including marketing, technology, human resource development and financing. Key areas of research and the scope of study can be assessed from the following:

Global Markets

The important global events, which are reshaping the global trade through formation of economic blocks, make it more important for the textile industry to be evaluated and analysed in a global perspective. For this the strategy formulation template starts with the analysis of global textile markets. Research in this segment includes analysis of international textile trade trends, the product mix and markets of competitors and their

performance, current position of the Pakistan's textile exports, the product mix and historical performance of the industry. A vital part of research is the comparison of unit prices within the same product mix, which enables to place and rank the domestic textile products in the international markets.

Industry Analysis

Industry analysis involves an in-depth study of the existing state of the textile industry. A great deal of information about the structure, dynamics and the key drivers of the industrial segments was obtained through close interaction with the entrepreneurs. This research segment also includes thorough explication of the process value chain within each sub-sector to determine the level of technology in the textile industry. Other important features include international benchmarking to determine efficiencies and productivity and the quality systems in practice. During this stage the evaluation of the existing human resource and their training need analysis was also done. The approach adopted helped in determining the future technology requirements of the industry to cater to the wide base of textile products in the international markets.



Regulations and Institutional Support Analysis

One of the imperatives behind long term textile policy development was the MFA phase out in 2005. It is vital to study the impact of the change in global regulatory environment with the liberalisation of textile trade. For the purpose an exclusive section has been included in the study on WTO and the implementation of ATC, which critically evaluates the implementation process and its effect on Pakistan's textile sector. Similarly, the domestic regulatory environment has also been analysed in detail. This includes assessment of quota policy, import export regime and various instruments of export promotion introduced by the Government from time to time. Finally, the institutional support network was also studied during this phase of research with a focus on training institutes and textile education centers.

Strategy Formulation

This section deals with the task of setting up targets and goals for the textile industry and action plans to achieve the objectives. In this context detailed sectoral requirements were estimated on the basis of technology up-gradation needs, which were in-line with the vision statement. To determine the commercial viability of the textile industry, financial modelling has been done for the priority sectors including apparel

industry. The segment also includes interventions and policy measure for marketing, human resource development and a conducive regulatory framework for the textile industry of Pakistan.

Implementation and Monitoring

As mentioned earlier, a number of research studies have been conducted in the past that provide comprehensive insight into the fundamental issues but implementation and execution of strategies recommended has eluded realisation. To ensure the realisation of this textile vision in the short run the implementation has been assigned to existing government agencies. And for long term, sustainable implementation and fine-tuning a Textile Board has been recommended that will constitute a combination of private and public sector participation to steer the strategic direction.

1. Cotton

Cotton is a natural vegetable fibre used primarily as a raw material for cloth. Cotton's strength, absorbency, and capacity to be washed and dyed also make it adaptable to a considerable variety of textile products. It grows best in tropical and warm subtropical latitudes. Leading producers include USA, China, India, Pakistan, Uzbekistan and Turkey. Cotton is produced by small trees and shrubs of a genus belonging to the mallow family. The immature flower bud blossoms and develops into an oval boll that splits open at maturity, revealing a mass of long white seed hairs, called lint, that cover a large number of seeds. When fully mature and dry, each of these hairs is a thin flattened tubular cell with a pronounced spiral twist and is attached to a seed. The length of the individual fibres ranges from 1.3 to 6 cm (0.5 to 2.5 in). Shorter fibres that grow from the seeds are called linters.

Cotton is the most used textile fibre in the world. Its current market share is 56 percent in all the fibres used for apparel and home furnishings. It is also widely used in non-woven textiles and personal care items. It is generally recognised that most consumers prefer cotton personal care items to those containing synthetic fibres.

World textile fibre consumption in 1998 was approximately 45 million tons. Of this cotton accounted for approximately 20 million tons. The earliest evidence of using cotton as a textile fibre comes from India around 3000 BC. There were excavations of cotton fabrics of comparable age in Southern America. Cotton cultivation first spread from India to Egypt, China and the South Pacific. The global rise in cotton production relates to invention of the saw-tooth cotton gin by Eli Whitney in 1793. With this new technology it was possible to produce more cotton fibre that stimulated new inventions in the spinning and weaving industry. Today, cotton is grown in more than 80 countries world-wide.

1.2. Introduction

Pakistan's economic revival is really linked to the revival of its agriculture sector, which is approximately 25% of Pakistan's GDP. Within the agriculture sector cotton crop is the basic raw material for the textile industry. Textile exports comprise more than 60% of Pakistan's total exports. Thus the success or failure of cotton crop has a direct bearing on Pakistan's annual GDP growth. There is a need to have a comprehensive and consistent Cotton Policy, one that ensures an equitable and level playing field for all the stakeholders across the value chain. Cotton production is the inherent comparative advantage of the Textile sector and the Policy should preserve and enhance this natural asset. The regional countries are all vying for a bigger market share in textiles and Pakistan must maintain a competitive edge in terms of raw material production. Amongst the competition countries like China and India have a big cotton crop while Taiwan, Hong Kong, Korea and Bangladesh do not.

The distortion of market mechanisms through regulatory policies has proven to be disastrous in the past. There is a need for deregulation and creation of market driven pricing mechanisms with time-proven instruments for hedging against price fluctuations and safety nets for crop failures. This market mechanism however needs to be evolved in the medium term with the public sector support that is phased out over time. The policy should provide a long-term direction for the growers and the industry.

1.3. Cotton Production

1.3.1. History of Cotton Cultivation in Pakistan

Cotton has been grown in the sub-continent since 3000 years. The indigenous variety of cotton, known as 'Desi Cotton' was being grown in the Indus valley since Mohenjo Daro era. Genetically cotton plant is a perennial and flourished in cotton forests but with advancement of farming technology it was adapted as a seasonal crop for higher productivity.

The Desi cotton has rough fibre characteristics with staple length of around 20mm and micronaire count of over 5.5. These features make it suitable for a limited use of denims, tarpaulins, Khaddar cloth and other rough fabrics spun and weaved locally in the cottage industry. American cotton was introduced in the subcontinent by the British at the turn of the century. Initially the genotypes were imported from the North American continent and tried in South Western Indian regions. Dr. Mohammad Afzal, a prominent cotton breeder of Punjab, adapted the American genotype to Punjab by a cross breed between the Desi and the American cotton — 3F variety produced in 1917. Since then cotton cultivation in Punjab and later Sind has shifted from desi to ‘American’ varieties, which are primarily crosses of new American breeds with 3F progenies.

Since American Cotton fibre characteristics are finer — staple length over 25mm and micronaire below 4.5, it is capable of being spun at higher counts to produce finer cloth and ideal for use in fabrics blended with man-made fibres.

Since cotton provides lint for fabrics and seed for oil, it quickly adapted a very significant role in Pakistan’s agro-economy. During the late 50’s and 60’s there was a rapid expansion of cotton cultivation, the area spreading progressively from central Punjab to southern Punjab. Short-medium staple varieties like 13/26, B-557 and 4F were grown extensively during the 60’s and early 70’s. With the setting up of the Central Cotton Research Institute in Multan breeding of cotton was accelerated in the country. Concurrently, the Provincial Research Institute Multan and Nuclear Institute of Agriculture & Biology (NIAB) at Faisalabad, launched breeding programs that produced a number of new higher yielding varieties in the late 70’s and early 80’s, that contributed to the phenomenal growth in cotton production during the 80’s.

Since 1991-92 when cotton leaf curl virus (CLCV) hit cotton production adversely, the focus of cotton breeding has been on virus resistance, rather than yield per acre. The newer virus resistant varieties had a lower yield potential and lower Ginning out Turn percentage (GOT) but recent developments in breeding have managed to produce genotypes that are resistant to CLCV and have a higher GOT with medium long fibre characteristics. Over the next few years, Pakistan, specially lower Punjab is expected to switch over to these new varieties which are perfectly matched to the international industry requirements. As such Pakistan is favourably poised to meet the challenges of the times.

The main characteristic common to most Pakistani varieties is the fibre strength, which is the best in the world. If other factors like clean picking, good ginning and elimination of contamination can be managed, local cotton is perhaps the best in the world. Unfortunately this quality potential was never achieved largely due to the marketing anomalies prevalent in the cotton markets that impeded the incorporation of the desired technological perfections.

1.3.2. World Cotton Production & Pakistan

1.3.2.1. World Cotton Overview

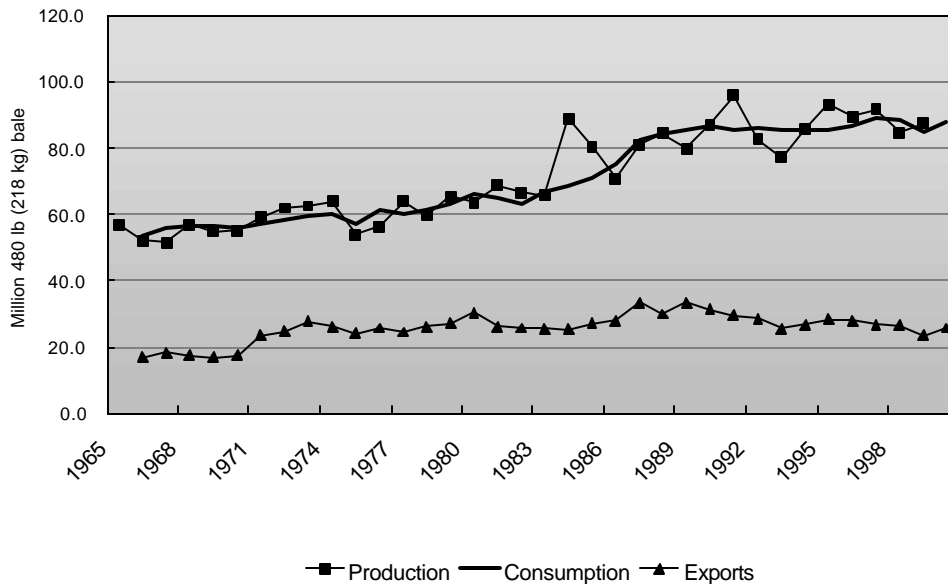
World cotton production is forecast at 19.1 million tons in 1999-00 and 18.7 million in 2000-01, up from 18.45 million tons in 1998-99. World consumption fell from 19.4 million tons in 1996-97 to an estimated 1.8 million last season, the largest decline in 25 years, because of economic difficulties in East Asia, Russia and Brazil. However, a rise to 19.2 million tons is projected over the next two years as the world economy strengthens. An important shift in location of stocks is underway, with the government of China (Mainland) determined to reduce its inventory and other exporters being forced to carry more.

The dominant world economic development over the last two years has been the Asian financial crisis and its global repercussions. The crisis started in a limited number of Asian countries in the second half of 1997. For a commodity like cotton, which is dependent on growth in textile demand, which is in turn linked closely to world economic performance, the impact has been significant. ***The financial crisis is the primary reason for close to zero growth in textile demand in calendar year 1998 and the decline in world cotton consumption of 2% in that year. The impact on prices has been even more significant with a large part of the 25% decline in cotton prices over the past two years being a direct consequence of the decline***

in demand. Overall, the crisis is estimated to have substantially affected the consumption and price prospects for cotton in both short and medium terms.

The following graph shows the world cotton production trend over the last thirty five years. Production is level with consumption and both have shown very little growth over the last five years. The export trend shows that the large producers are also the major consumers of cotton, like USA, China, Pakistan and India. China and India have now become net importers of cotton and the volumes of raw cotton export has shrunk.

Figure 1.3.1: World Cotton Production



The following table gives the detailed breakdown of all cotton producing countries. It also gives an estimate of cotton production for the crop 2000-01 season. According to this table Pakistan's production for the year 1999-00 comes to 8,400,000 bales (480 lb bale) which is 10.8 million bales of 170 kgs. Other estimates put the crop at 11.2 million bales.

Table 1.3.1: World Production 1999-00 & Estimate for 2000-01 (thousand 480 lb Bales)

1999-2000				COUNTRY	2000-01			
WBCI	COTLOOK	ICAC	USDA		WBCI	COTLOOK	ICAC	USDA
ESTIMATE	26-Jun-00	3-Jul-00	12-Jul-00		ESTIMATE	26-Jun-00	3-Jul-00	12-Jul-00
100		101	100	AFGHANISTAN	97		101	85
705	689	712	700	BENIN	689	634	689	660
500	505	574	505	BURKINA FASO	413	606	551	550
330	344	322	325	CAMEROON	367	303	322	325
75		73	75	CEN. AFRICAN REP.	51		83	75
350	344	344	350	CHAD	367	344	344	350
750	735	735	790	IVORY COAST	597	744	735	825
60		78	60	MADAGASCAR	68		73	60
920	919	919	925	MALI	758	942	942	950
5		5	5	NIGER	5		5	5
60		55	60	SENEGAL	55		55	60

265	322	266	260	TOGO	276	354	322	330
	152	73		OTHERS		133	-5	
4,020	4,010	4,157	4,055	SUB-TOTAL	3,646	4,060	4,115	4,190
597	574	597	575	ARGENTINA	1,100	1,033	827	850
3,462	3,233	3,077	3,200	AUSTRALIA	3,558	3,146	3,123	3,200
147	175	142	145	AZERBAIJAN	140	207	110	150
75		138	69	BANGLADESH	125		142	65
23		14	12	BOLIVIA	46		14	20
2,756	2,655	2,857	2,700	BRAZIL	3,215	2,728	3,215	2,900
130			130	BURMA	125			130
17,700	17,591	17,912	17,600	CHINA	17,500	17,453	16,994	17,500
111	115	110	111	COLOMBIA	150	152	156	135
12		9	15	ECUADOR	10		14	20
1,056	1,056	1,052	1,050	EGYPT	850	873	854	850
			1	EL SALVADOR				1
70		69	70	ETHIOPIA	70		64	70
71		78	70	GHANA	70		87	70
1,970	1,929	1,966	2,020	GREECE	1,900	1,699	1,745	1,900
1			3	GUATEMALA				3
12,110	12,102	12,631	12,300	INDIA	12,000	12,860	12,401	12,300
16		18	14	INDONESIA	15		18	14
660	597	694	650	IRAN	600	597	694	600
110	110	115	113	ISRAEL	78	78	73	75
355	367	363	350	KAZAKHSTAN	360	367	367	350
130		119	130	KRGYZSTAN	115		110	100
630	620	629	669	MEXICO	330	335	294	300
100		101	100	MOZAMBIQUE	130		115	150
250	390	230	230	NIGERIA	255	253	276	275
7,616	7,610	8,267	8,400	PAKISTAN	7,656	7,496	7,119	7,300
390	390	386	367	PARAGUAY	505	482	482	500
185	207	184	185	PERU	185	230	184	185
5		9	3	PHILIPPINES	7		9	2
175	165	184	190	SOUTH AFRICA	166	161	161	180
588	597	574	551	SPAIN	450	459	436	425
285	280	285	285	SUDAN	375	501	377	375
1,480	1,488	1,493	1,430	SYRIA	1,400	1,396	1,470	1,325
435	436	436	435	TAJIKISTAN	400	413	390	400
160	156	161	160	TANZANIA	180	184	184	200
45		55	29	THAILAND	45		55	30
3,631	3,638	3,904	3,675	TURKEY	3,350	3,394	3,858	3,500
1,050	1,033	1,194	1,050	TURKMENISTAN	1,125	1,102	1,286	1,150
100		110	100	UGANDA	130		147	100
				USA:				

5,125	5,126			MEMPHIS TERR	5,918	5,796		
5,217	5,241			TEX/OKLA	6,000	5,782		
2,340	3,036			FAR WEST	2,862	3,311		
3,575	3,569			S.EAST	4,370	4,033		
696				PIMA	451			
16,960	16,966	16,966	16,968	SUB-TOTAL	19,601	18,923	19,290	19,300
5,300	5,263	5,282	5,300	UZBEKISTAN	5,100	4,823	5,052	5,100
50		28	50	VENEZUELA	35		23	50
65			65	YEMEN	65			65
100		92	100	ZAMBIA	100		92	100
565	574	588	550	ZIMBABWE	500	565	413	500
267	1,438	749	267	OTHERS	259	1,704	698	279
86,114	85,768	88,014	86,642	WORLD TOTAL	88,119	87,674	87,637	87,369
				SUMMARY				
86,114	85,768	88,014	86,642	PRODUCTION	88,119	87,674	87,637	87,369
89,826	89,314	90,582	90,838	CONSUMPTION	91,176	91,160	91,583	92,268
-3,712	-3,546	-2,567	-4,196	BALANCE	-3,057	-3,486	-3,945	-4,899

Source: King Cotton (An international Agency)

1.3.2.2. Top Five Cotton Producing Countries

There are about 75 countries in the world growing cotton but the top five countries produce more than 70% of the total production. Pakistan is the fourth largest producer with 9% share in production.

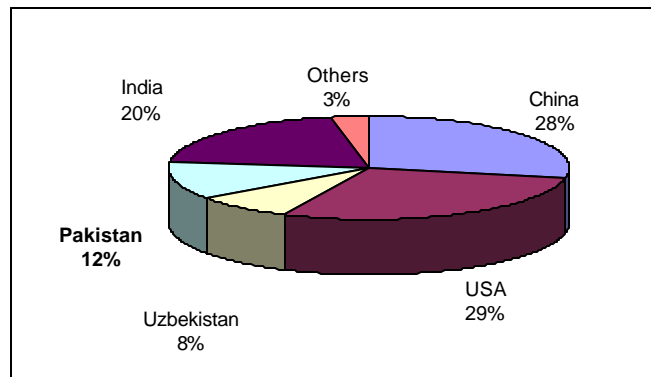
Table 1.3.1: Production & Yield

Year	World		China		USA		India		Pakistan		Uzbekistan	
	Yield (Kg/Ha)	Prod ('000 MT)	Yield (Kg/Ha)	Prod ('000 MT)	Yield (Kg/Ha)	Prod ('000 MT)	Yield (Kg/Ha)	Prod ('000 MT)	Yield (Kg/Ha)	Prod ('000 MT)	Yield (Kg/Ha)	Prod ('000 MT)
95-96	567	20,352	879	4,768	602	3,897	318	2,885	601	1,801	837	1,254
96-97	576	19,607	890	4,203	792	4,124	330	3,024	506	1,594	714	1,062
97-98	589	20,030	1,016	4,602	762	4,092	304	2,686	528	1,561	768	1,139
98-99	556	18,531	1,064	4,501	702	3,030	293	2,710	489	1,480	647	1,000
99-00	577	19,086	1,026	4,000	692	3,800	304	2,700	589	1,650	700	1,050

1.3.2.2.1. Percent Share of Leading Cotton Producers

China and USA are the leading cotton producers with more than 57% share evenly distributed between them. The historical trend over the last ten years indicate that there has not been a substantial change in the percent share between the leading cotton producing countries. With Pakistan producing a bumper crop in the season 1999-00, its share went up to 12% from 9% in the previous season.

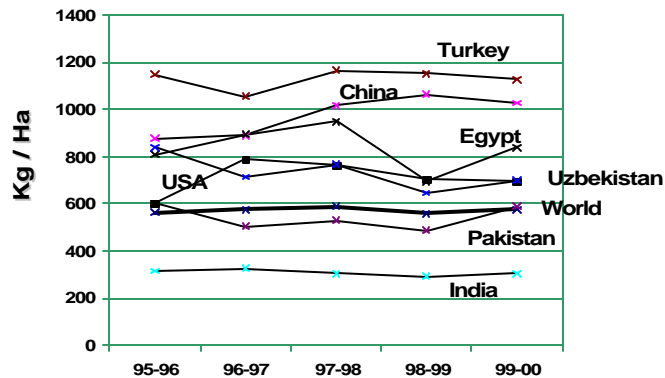
Figure 1.3.1: Share of Cotton Production



1.3.2.2. Yield Comparison

Turkey has the highest yield per hectare. Turkey's production in the last season was 820,000 metric tons and the yield was 1129 kg/ Ha. Egypt which is leading producer of ELS cotton produced 218,000 MT with a yield of 837 kg /Ha.

Figure 1.3.1: Yield Comparison of Leading Countries



The following table gives the details of yields of different countries:

Table 1.3.1: Yield Comparison

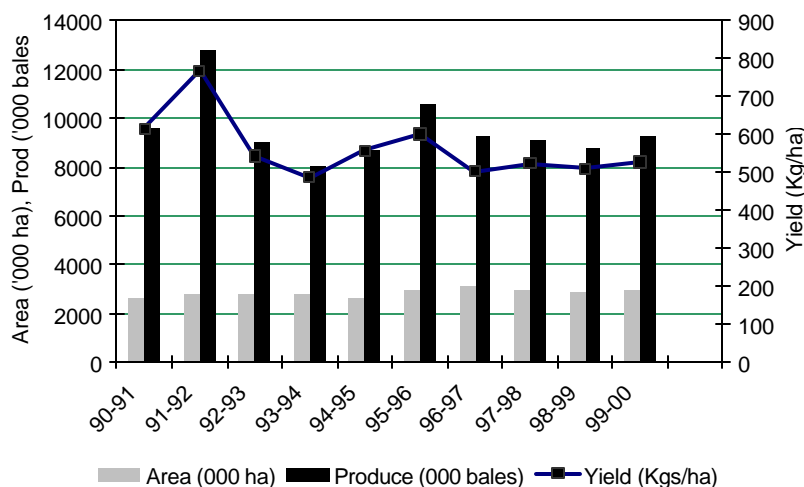
Year	World	Turkey	China	Egypt	Uzbekistan	USA	Pakistan	India
95-96	567	1148	879	810	837	602	601	318
96-97	576	1055	890	894	714	792	506	330
97-98	589	1165	1016	948	768	762	528	304
98-99	556	1152	1064	694	647	702	489	293
99-00	577	1129	1026	837	700	692	589	304

(Figures in kg per hectare)

India is the lowest out of the seven countries tabulated but it should be noted that more than 60% of India's cotton growing area is rain-fed. Pakistan is close to the world average and but there is immense potential to increase the average yield per hectare.

1.3.2.2.3. Area & Production of Pakistan

The area under cotton cultivation has not changed appreciably over the last ten years. In the future if Pakistan has to increase production, it shall have to come mainly from increase in yield and higher GOT, and not area. Punjab Agriculture Department has laid down criteria for the approval of new cotton varieties -- GOT not less than 38%, staple length not less than 27mm, micronaire not more than 4.8, strength 95,000 psi, uniformity ratio not less than 48 and existing boll size not less than 4gm (existing 2.2 – 2.3gm). However, there are certain areas in NWFP and Baluchistan where cotton can be grown with a potential of about half a million bales.



The limiting resource in Pakistan is water that needs to be optimised. The following table shows room for improvement. The differential between high and low yields in Pakistan is large. If the gap is narrowed down production can be increased substantially. An increase of one bale per hectare would translate into 2.9 million bales of cotton. The biggest barrier to increase yield per hectare is not genetic or environmental but simply that of crop management techniques. In Pakistan the furrow planting is around 6-7%. In Punjab this percentage is higher and is close to 15%.

Table 1.3.1: High / Low Yields

	Area	Production	Yield (kgs of lint / Ha)		
	(Mill Ha)	(Mill Ton)	Yield	Low	High
Turkey	0.7	0.8	1129	700	1307
China	3.9	4.5	1026		
Egypt	0.3	0.2	837		
USA	5.5	3.8	692	210	1130
Uzbekistan	1.5	1.0	647		
Pakistan	2.9	1.7	586	330	1320
India	8.9	2.7	304	66	2100

The average ginning out turn (GOT) of 35% in Pakistan is on the lower side. A one percent increase in GOT can provide an additional 300,000 to 400,000 bales.

Potential to Increase Area under Cotton

There is a potential to increase the area under cultivation in NWFP and Baluchistan. The total area comes to 450,00 acres. *This increased area can produce more than 1.3 million bales at very conservative average per acre yield of 13 maunds per acre.* However some areas still need more canal water. Sibi Division would need water from the extension of Pat Feeder Canal, which is yet to be completed.

In Punjab and Sind some areas may be encouraged to convert to growing cotton. The following table shows a potential increase in area in Punjab and Sind as 168,000 and 64,000 acres respectively. This additional area in Sind with a yield of 14 maunds per acre can produce an additional 211,000 bales. For Punjab the additional 168,000 acres if yielding an average of 17 maunds per acre will produce 672,000 bales. All these additional areas in the four provinces combined can produce 2.17 million additional bales, which is about 20% of the crop in 1999-2000.

Table 1.3.1: Potential to Increase Production through Area Expansion

AREA	Irrigation	Existing Areas	Existing Acreage	Potential Acreage	Potential Areas	Potential Acreage
NWFP	Chashma Rt. Bank Canal	D.I. Khan	6,000	150,000		
Baluchistan	Pat Feeder Canal	Nasirabad & Uthal	40,000	150,000	Sibbi Division (Extension of Pat Feeder Required)	150,000
Punjab			5,802,000	168,000		
Sind			600,000	64,000		
Total			6,448,000	532,000		150,000

Growing Sugar Cane versus Cotton in Punjab

Growing sugar cane in Punjab is proving to be most un-economical. The Government is being forced to pay a heavy subsidy to the sugar industry to protect it from collapse. Sugar cane requires 100 acre inches of water and in Punjab the average yield of sugar cane is 474 40kg/acre. The following analysis explains that the value per acre inch of water from growing sugar cane is \$ 3.4 per acre inch. The value per acre inch for cotton is \$ 28 and that for wheat is \$ 4.8.

Table 1.3.1: Assumptions for the Crops

Area Punjab	(Ha)	624,000
Area	(Acre)	1,541,904
Sugar recovery		7.97%
Sugar molassis of crushed cane		4.78%
GOT	%	33%
Sugar Price CIF Karachi	(\$ / Ton)	200
Molassis FOB Karachi	(\$ / Ton)	37
Yarn Export Price (\$ 0.85/lb)	(\$ / Ton)	1,875
Wheat Price	(Avg last 3 years, \$/Ton)	120
Cotton Seed		56%
Oil percent		9%
Linters		6%
Cotton Seed meal		40%
Oil price	(\$/Ton)	700
Seed Cake	(\$/Ton)	134
Linters	(\$/Ton)	48

Water being the limited resource for agriculture in Pakistan, there is need to review the justification of subsidising sugar mills, specially in the cotton rich areas of Southern Punjab, where return to per unit of water is much higher in cotton compared to sugarcane.

Table 1.3.2: Potential Area from Sugar-cane to Cotton in Punjab

(Hectares)	Possible Conversion to Sugar-Cane	Existing Sugar-Cane	Existing Cotton
Bahawalpur	78,000	78,000	750,000
Multan	58,000	58,000	947,000
DG Khan		39,000	399,000
Faisalabad		234,000	164,000
Sargodha		105,000	19,000
Lahore		110,000	650,000
	136,000	624,000	2,929,000

The combined value per acre of growing cotton and wheat is \$ 321 per acre and the value per acre inch of water is \$ 17.7.

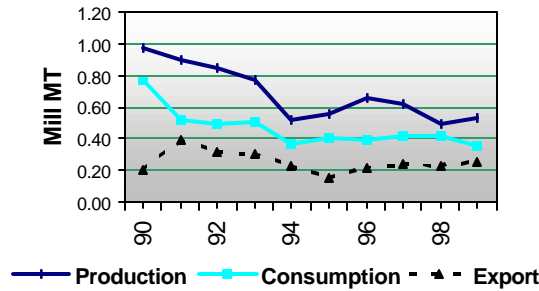
Table 1.3.3: Comparative Analysis of \$ per Acre inch return from Sugar Cane vs Cotton

		Sugar Cane	Cotton	Wheat	Wheat + Cotton
Area Punjab	Hectare	136,000	136,000	136,000	
	Acre	336,056	336,056	336,056	
Annual Water Consumption	Acre. Inch	100	30	24	
Total Water	Acre inch	33,605,600	10,081,680	8,065,344	18,147,024
Average Yield	40 kg / Acre	474	17	24	
Cost per Acre	Rs. / Acre	11,950	10,500	6,200	
Total Production	40 kg	159,290,544	5,712,952	8,065,344	
Total Production	Tons / bales	6,371,622	430,920	322,614	
Sugar Cane Crushed	100%	6,371,622			
Final Product	Sugar/lint/Grn/Ton	507,818	142,204	322,614	
Sugar Molasses Production	Tons	304,564			
Cotton Seed	40 kg		3,199,253		
Cotton Seed	Tons		127,970		
Primary Product Value	\$ Million	101.6	267	38.7	305
Secondary Product Value	\$ Million	11.4	15.3		15.3
Total Value	\$ Million	113	282	39	321
Value / Acre	\$ per Acre	302	793	115	909
Value/Acre inch	\$ per Acre Inch	3.4	28.0	4.8	17.7

1.3.2.3. ELS Cotton

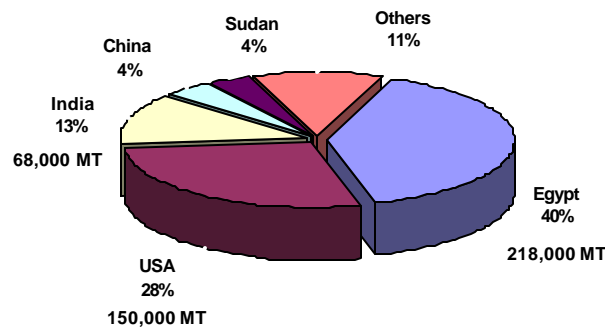
Extra Long Staple cotton fibre is above 35 mm. Total World production of ELS cotton is 538,000 MT for 1999, up from 493,000 MT in 1998. The total world production has come down from 1,152,000 MT in 1986. In that year India produced 254,000 MT down to 68,000 MT in 1999. The main reason was low yielding nature of ELS varieties and the farmers shift to higher yielding coarser varieties. The consumption of ELS was 4% of total cotton production in 1990, which was 765,000 MT. This has reduced to only 2% of total cotton fibre consumption in 1999, which stands at 350,000 MT. The peak consumption was 875,000 MT in 1985. These trends are seen in the production, consumption and export trends of last ten years in figure below. This year (2000-01) there has been a sharp decline in the planting of ELS varieties in USA. There has been a reduction of more than 25% area over the year 1999-00.

Figure 1.3.1: ELS Share in Total Production



This decline is explained by the growing trend of blended yarns and the increased use of man-made-fibre. Man-made-fibre has more strength than cotton fibres in higher count yarns. The leading producer of man-made-fibre is Egypt with 218,000 MT in 1999. Egypt produced more than 400,000 MT in 1986. The share of USA has gone up from 45,000 MT in 1986 to 150,000 MT in 1999. The share of production of Uzbekistan has also gone down drastically, which stood at 302,000 MT in 1986 and in 1999 was 7,000 MT. Figure 1.3.2 gives a share of major ELS cotton producers in the world for the year 1999.

Figure 1.3.2: Share of ELS Production '99



1.3.2.4. Long Staple Production

APTMA has expressed the need for a shift to cotton varieties of longer staple length. Currently Pakistani varieties fall between 25mm – 28mm range. The products for higher per unit value, based on global demand, require medium long staple cottons of 28mm to 30 mm. The requirements provided by APTMA are as follows:-

Table 1.3.1: Staple Length Requirement of Cotton Textile Industry-2005

Staple Length	Staple Length (Inch)	Quantity (Bales)
Short	13 / 16”	Nil
Medium	13/16 “ to 1”	500,000
Medium Long	1-1/32” to 1-3/32”	5,000,000
Long	1-1/8” to 1-5/16”	6,000,000
Extra Long	1-1/4”	500,000
Total		12,000,000

Mixing of varieties at the farm and the ginning level depreciates staple length grading of Pakistani cottons. Varietal mixing can be eliminated by increasing the area under certified seed and by ensuring strict grading standards at the ginning stage.

1.3.2.5. Cotton varieties & Genetic Potential

1.3.2.5.1. Improvement in Yield

Yield can be increased in two ways i.e. by improving seed cotton yield or by improving lint yield (GOT). Seed cotton yield refers to yield of cotton before the ginning. It includes both lint and seed. On the other hand, lint yield refers to yield of fibre after ginning. Boll numbers per plant and boll weight are the yield components in seed cotton. GOT is the percent of lint in seed cotton. In 1991-92 Pakistan’s production of cotton was 12.8 million bales and this was primarily due to the variety S-12 which had a GOT of 41 percent. This variety was susceptible to CLCV and had to be discontinued. Subsequently no variety has been able to achieve this high GOT. Many new varieties are awaiting approval that will have high GOT.

1.3.2.5.2. Improvement in Fibre Quality

Fibre quality includes fibre length, strength, fineness, maturity and uniformity. The spinning capacity and efficiency depends on the fibre length and its strength. Most of our commercial varieties are of medium staple length (25mm- 28mm). The shortage of long staple length fibre in the country is presently fulfilled through imports. There are long staple varieties available locally that need to be commercialised for import substitution of around 500,000 bales per annum. Long staple varieties are genetically lower yielding and revenue to the farmer is compensated through higher price. Extra Long staples (ELS with staple length higher than 35mm) will remain a speciality product grown and processed by limited growers and processors. The bulk of cotton production will have to move towards a staple length range of 28mm – 30mm range i.e. 1-1/8” – 1-3/32” range.

1.3.2.5.3. Insect & Disease Resistance

Cotton crop is attacked by several diseases and insect pests that result in considerable losses in yield. The genetic resistance is the cheapest and the best way of reducing such losses in yield. Recently BT has been inoculated at NIBGE, Faisalabad and its results are positive against certain pests. In USA, Monsanto Seed Company has developed transgenic cotton, which is resistant *Heliocoverpa armigera*. Cotton Leaf Curl Virus is another problem, which is still existent in some cotton varieties.

1.3.2.5.4. Early maturity

Earliness is a desirable character, which has several advantages. Early maturing varieties permit multiple cropping system, escape from the late pests, and reduce cost on pesticide sprays and crop management, thus resulting in reduced cost of cultivation. Most of previous cotton varieties mature in 240-270 days. Heat resistance is another characteristic that needs to be developed in local varieties because this will help in earlier planting and earlier harvesting and higher yields. CCRI is already making efforts to develop early maturing varieties that would give the farmer ample time to prepare the soil for wheat crop.

1.3.2.5.5. Adaptability

This refers to the capacity of a variety for adaptation over a wide range of environmental conditions. Varietal adaptability is important for stabilisation of production over various regions and seasons in both Punjab and Sindh.

At present the most common varieties grown in Punjab are as under;

Figure 1.3.1: Varieties in Punjab

%Area under different Varieties					
Variety	Yield(40kg/acre)	GOT %	Staple (mm)	Area %	
				97-98	98-99
CIM-109	40-45	35.5	27.5	1.6	3.57
CIM-240	40-45	36.5	27.5	24.9	10.94
CIM-1100	35-40	38	29	16	9.49
CIM-448	35-40	38	28.5	4.1	19.09
CIM-443		36.5	27.69		8.66
CIM-446					4.77
NIAB-78		35.5	26.19	11.1	6.42
Karishma		35	26.99	17.1	21.5
MNH-93		36	26.99	3.6	1.31
S-12				0.9	-
SLS-1		32	26.99	3.4	0.8
BH-36		36	27.69	1.7	4.0

1.3.2.5.6. Future Prospects

Advancement in science and technology has enabled the breeders to reduce the variety development time period of 10-15 years up to 2-3 years.

Three research stations in Punjab are specifically working on varietal development. Central Cotton Research Institute (CCRI) Multan is working under Pakistan Central Cotton Committee Karachi and the other two i.e. Multan Cotton Research Station and Faisalabad Cotton Research Station are working under Punjab Agriculture Department. These research stations can meet the challenge of producing the required varieties providing the correct incentives are provided.

Hybrid cotton, Transgenic cotton, Extra long staple (ELS) cotton, colored cotton and organic cottons have a demand in selected markets of the world and the breeders need to work in these areas too.

1.3.2.5.7. Cotton Research Station , Multan

Cotton research institute is working on cotton quality improvement program and in the near future will be able to produce long staple and extra long staple cotton for commercial cultivation.

Figure 1.3.1: Future Varieties of CRS, Multan

Variety	Yield Kg/Ha	Got(%)	Staple Length (mm)	Mike	Strength (tppi)	U.R %
A. Medium Staple Length						
MNH-552	3827	40.2	27.2	4.8	96	48.8
460/98	4021	41.1	27.9	4.7	93	49.6
711/98	4030	42.2	27.5	4.3	94	47.5
B. Medium Long Staple Length						
MNH-554	3512	41.2	28.5	4.5	92	47.8
565/98	3620	41.1	28.3	4.2	93	48
MNh-564	3056	42.2	29	4.7	94	47
C. Long Staple Length						
C-1994	2460	38.2	31.4	4.2	89.2	44.9
351/99	2335	40.8	31.5	4.3	93.1	45
D. Extra Long Staple Length						
363/99	2045	38.9	32.5	3.9	88	45.5
339/99	2260	38.2	33.8	4.3	90	44
374/99	2520	38	34	4.1	89	46

*Cotton Research Station

1.3.2.5.8. Faisalabad Cotton Research Station

The climatic conditions of Faisalabad region are totally different from the Multan. This station is focussing on developing commercial varieties with good staple length

Figure 1.3.1: Future Varieties of Faisalabad Cotton Research Station

Variety	Staple(mm)	Mike	Strength(tppi)
FH-900	28.6	4.6	98.8
FH-945	28.5	4.1	99
FH-930	29.5	3.9	98.5
FH-958	29.88	4.4	97
FH-959	29.8	4.9	98
FH-685	29.53	4.9	98
FH-842	29.65	4.2	97.7
FH-720	29.61	4.1	96.8
FH-872	29.3	4.4	97.7
FH-805	27.6	4.3	98.4
FH-947	28	4.3	99.6
FH-649	27.74	4.7	100.4
FH-796	28.46	4.5	101.3

*Cotton Research Institute

1.3.2.5.9. Central Cotton Research Institute (CCRI) Multan

This institute has focussed on improving the quality of cotton varieties. CCRI has developed the following strains that are under varietal trials.

Figure 1.3.1: Future Varieties of CCRI, Multan

Variety	GOT	Staple Length(mm)	Micronaire	Strength(tppsi)
CIM-473	39.7	29.7	4.44	97.5
CIM-482	39.2	29.3	4.45	98
1241/99	37.2	31	4.3	97.1
1242/99	37.1	31.4	4.24	96.3
1243/99	37.5	31.1	4.43	96.2
1244/99	37	30.9	4.4	98.1
1282/99	40.3	28.5	4.57	96.7
1285/99	39.8	28	4.76	97
1592/99	41.9	29.5	4.47	97.8
Cyto-54	39.3	27.8	4.5	97.9
Cyto-55	40.6	28.2	4.5	98.4
Cyto-58	39.2	28.4	4.8	97.3

*Central Cotton Research Institute

1.3.2.5.10. Global Varietal Situation

A few important varieties of the major cotton growing countries are enlisted here for comparison.

Figure 1.3.1: Varieties Grown in Selected Leading Countries

China	Area %	GOT	Staple(mm)	Strength(g/tx)	Micronaire
CRI-12	22	41	29.9	20	4.2
CRI-19	4	42.3	29.4	21.3	4.5
CRI-16	11	36.8	29.4	19	
SIMIAN-3	8	42.5	31.5	20.9	4.6
India					
LRA-5166	23	35	25-26	46	4
F414/H777	10	34	23-24	48	4.2
MCU-5	8	33	29-30	48	3.5
JKHY-1	7	34	26-28	45	3.9
Pakistan*					
MNH-93	1.31	36	26.99	94	4.6
NIAB-78	6.42	35.5	26.19	92	4.7
S-12		40	26.99	92	4.8
CIM-1100	9.49	38	28.58	94	3.9
CIM-109	3.57	35.1	26.99	92	4.4
CIM-240	10.94	36.5	26.99	93.7	4.7
CIM-448	19.09	38	28.58	93.8	4.5
CIM-443	8.66	36.5	27.69	96.1	4.85
USA					
DPL ACLA-90	5		29.4	29.5	4.6
DPL-51	7		27.7	26.1	4.7
DPL20	7		28.6	26.3	4.3
ACLA-MAXXA	6		29.4	30	4

* Strength in terms of tpsi

1.3.2.6. Cotton Production Period

In India the harvesting time is longer as a 60% of their crop is grown in rain fed areas and are late maturing varieties.

Table 1.3.1: Production Period Comparison

Cotton Crop Period in Different Countries

Country	Months											
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
China												
India												
Pakistan												
Turkey												
USA												

Growing Time
 Harvesting Time
 Free Period

1.3.2.7. Cotton Cultivation Practices

Pakistani cotton growers have performed well under conditions that have been less than adequate. Availability of vigorous seed, technology support, easy access to unadulterated pesticides, conducive and predictable markets, have been areas where growers are not adequately served.

1.3.2.7.1. Seed Supply

Seed quality being a major determinant of the yield and lint characteristics, the farmer has an economic motive to use the best quality seed available. A variety which gives better results and fetches good price would be a clear favourite. The availability of the right seed variety for that particular area is not available. The net work of Punjab Seed Corporation has left much to be desired to logistically handle the seed supply in Punjab. According to survey conducted by CCRI, Multan, the public and private seed corporations had supplied seed to only 19% of the cotton area while 50 % of area has been supplied by farmers' own seed and 10% area was planted by seed given by other farmers. Private sector seed industry is in an unregulated and nascent stage of development. Multi-national seed companies have yet to enter the cotton seed market, primarily because of the monopolistic nature of breeding and seed multiplication of the Provincial departments. Cotton varietal issues and seed markets need to be opened up to private sector and multi-nationals within provincial Governmental Regulations.

1.3.2.7.2. Soil & Seed bed Preparation

The present inefficient and primitive technology being used in cotton cultivation has reached its limitation in improving the yield per hectare. Primary tillage and Furrow planting can potentially improve yields from 15 to 40 %, depending upon the genetic potential of variety and soil fertility.

SMEDA is recommending the setting up Agriculture Equipment Rental companies in the private sector. These companies can provide all services to farmers from primary, secondary tillage, seed bed preparation and precision planting. The small farmer cannot afford to purchase expensive equipment like seed drills and properly designed primary and secondary tillage implements. The advantage of developing these rental companies is they can provide high technology at affordable costs to the farmer. At present only combine-harvesters are operated on rent.

1.3.2.7.3. Irrigation

Flood irrigation is a primitive irrigation technique still widely practised in Pakistan. In Turkey more than 80% percent of the area is furrow irrigated which explains their high yields. Pakistan still uses flood irrigation method in more than 80% of the area.

Furrow irrigation has two basic advantages. One is increased cotton yield per hectare and the other is higher water efficiency. In the USA large areas are naturally rain-fed and irrigation is predominantly

through sprinkler irrigation systems. India is rain-fed too. Rain-fed cultivation has an inherent advantage of environmental suitability and lower cultivation costs and this offsets to some extent, the effects of lower yields.

Table 1.3.1: Irrigation Method Comparison

IRRIGATION	No Irrigation %	Flood %	Furrow %	Sprinkler %
Pakistan	-	80.0	20	0
China	20.0	25.0	55	-
India	69.0	21.0	10	-
Turkey	-	20.0	80	-
USA	51.0	1.0	36	12

1.3.2.7.4. Pesticide Spraying

Spraying of chemical pesticides / insecticides and use of fertilizers are necessary to maintain the yield and take the crop to maturity. Unfortunately most of the available ones are not of the highest quality. Substandard chemicals are one of the major reasons for crop failures / low yields. The technological interventions of AMRI Multan are limited and the role of the institution needs to be strengthened.

In pest control USA and Turkey are the leading countries using Aerial spraying methods. In Pakistan hand spraying is relied upon. Tractor spraying is widely adopted but the equipment used is sub-standard causing wastage of expensive pesticides and lower efficacy. Ultra Low Volume (ULV) is more efficient than high volume spraying. It is simple and efficient, specially in Pakistan where there are small land holdings. ULV method needs to be promoted through reducing import duty on equipment and promotional campaigns. The droplet size of spraying from a nozzle directly impacts its effectiveness.

Table 1.3.1: Insecticide Spraying Method Comparison

SPRAYING	Hand %	Motorised %	Tractor %	ULV %	Aerial %
Pakistan	50.0	27.0	18	5	0
China	50.0	20.0	15	5	10
India	74.0	13.0	2	6	5
Turkey	0.0	25.0	25	10	40
USA	0.0	0.0	20	0	80

1.3.2.7.5. Harvesting & Storage

Cotton is mostly hand picked in most countries but is all machine picked in USA, Australia and Israel. Upland cotton is usually saw ginned. However, all cotton is roller ginned in Cameroon, Thailand and Uganda. More than half of the total production is roller ginned in India and Turkey. Pakistan cotton is all handpicked but the level of contamination is high. This must be reduced through farmer education programmes. Module storage and transportation of cotton reduces the contamination after picking and before ginning. The issue of contamination has been discussed in detail in a separate section.

Table 1.3.1: Harvesting & Storage Comparison

Country	Harvesting		Module Storage
	Manual %	Machine %	%
China	100		10
Pakistan	100		0
India	100		0
Turkey	100		30
USA		100	85

1.3.2.8. Cotton Production Target-2005

As part of the textile vision-2005 Pakistan needs to increase production to much higher levels by maintaining a constant growth rate through the following factors:-

- Improve Varieties for staple length, yield & GOT %.
- Better Cultural Practices
 - a. Yield
 - b. Irrigation
 - c. Planting Equipment
 - d. Spraying Equipment
- Area Expansion
 - a. New area
 - b. Area used by other uneconomical crops
- Improve GOT from ginning by technological interventions

The following table gives the break down between the three major requirement areas:

Table 1.3.1: Cotton Production Target-2005

Total Production	16 Million bales
<u>Consumption Breakdown</u>	
Local Mill Consumption	12
Export of Cotton	3
Buffer Stock	1

These targets have been laid down after incorporating the projections of the textile value added sectors of spinning, weaving, processing knitwear and apparel. The importance of maintaining a buffer stock of about 6% has been discussed in cotton marketing.

1.4. Cotton Quality

1.4.1. Cotton Standardisation

Textile exports need emphasis on value-addition. With the implementation of WTO agreements the competition is envisaged to intensify especially from the South Asian countries. More emphasis is being laid by the spinning industry to go into higher count yarns, which would require cotton of longer staple lengths and with minimum dust and trash content. Cotton in Pakistan is priced on area and variety. The need is to make cotton standardisation an industry norm across the country. Implementation of cotton standardisation system laid down by the PCSI will increase the intrinsic value of Pakistan's cotton in the international market.

Quality of cotton, has different meanings to different stake holders. It's high GOT for the ginner, high grade, longer, stronger and higher uniformity to the spinner. *It is strongly recommended that the internationally approved cotton standards of PCSI should be implemented effectively from the coming season. KCA should start quoting spot rates based on PCSI standards. This will go a long way in improving the quality image of Pakistan's cotton.*

Primitive and careless harvesting, handling, storage, transportation and ginning technology is being used. This seriously effects the lint quality at the post-harvest stages. The marketing system is based on subjective cotton standards. It is based on variety and the area where the cotton has been grown. Implementation of cotton standards and pricing based on premiums and discounts would encourage the farmers and ginner to improve the quality. This will help improve international prices of Pakistani cotton by moving it into Cotton Index A.

The requirement of producing the grading and classification certificate issued by the Pakistan Cotton Standards Institute (PCSI) to the customs authorities at the export stage was introduced with effect from 30th January, 1997. KCA has opposed this requirement on the ground that no improvement in quality of cotton can be made once cotton has already been ginned and pressed, ready for shipment. This objection of KCA would be removed once cotton standardisation of PCSI is implemented at the ginning stage for all cotton lots of 100 bales. Ultimately the system should move to classifying each individual bale using auto-mechanical sampling at the ginning stage.

Bad Picking Practices

The malpractices of picking excessive field trash, mixing dirt in seed cotton, picking of immature bolls with inferior lint quality, will be minimised by introducing standard boxes for phutti-grading at the purchase centers and ginning factories, thus linking the price to the quality of seed cotton, with premiums for better grades.

1.4.1.1. Pakistan Cotton Standards Institute

1.4.1.1.1. Background

Pakistan cotton is inherently of good quality but marketing distortions and absence of quality control lead to depreciation of the value of raw cotton. Being cognisant of these problems, the Government decided to introduce standardisation of cotton in line with internationally accepted standards for improving the competitiveness of Pakistan's raw cotton.

For the purpose, assistance was sought from UNDP/FAO in October 1983 for setting up a cotton standardisation system. The project completed its task by June, 1986. Assistance from UNDP/FAO and Asian Development Bank was requested for establishing a permanent Agency for standardisation of cotton. Pakistan Cotton Standards Institute (PCSI) Project was initiated in 1988 with the assistance from ADB/UNDP/FAO, costing Rs.152.74 million (ADB loan Rs.96.44 million, UNDP grant – Rs. 54.57 million and GOP share – Rs.1.73 million), to meet the following objectives:

- a. Establishing and implementing a cotton standardisation programme based upon internationally accepted grading and classification system.
- b. Setting-up grades and standards of seed cotton and lint.
- c. Train new generations of cotton graders, classers, arbitrators and instructors.

1.4.1.1.2. Progress Realised

During the past few years, PCSI has been able to realise significant achievements, some of which are listed below:

- a. The standards and grades for seed cotton and lint developed by the Project were approved by the Government in November 1990 and declared to be the official standards for Pakistan cotton.
- b. The official standards for lint cotton were recognised by the Liverpool Cotton Association in July 1991, for conducting arbitration of Pakistan cotton on the basis of these standards.**
- c. The new system of grades and standards was successfully implemented in number of ginneries in collaboration with CEC.
- d. Official standards have also been sent to Bremen Cotton Exchange, Germany and Cotton Association, Italy. These have also been provided to KCA, CEC, APTMA, PCGA, etc.
- e. The Project has also succeeded in designing the Colour Chart for Pakistan cottons. With the designing of this chart Pakistan is now able to instrumentally evaluate its raw cotton on the High Volume Instruments (HVI) according to its own officially approved standards.**
- f. 180 Cotton Classers have been trained so far, while 19 female fibre testing technician have been trained in different concepts and operation of fibre testing instruments. Besides, PCSI has also imparted training to over 800 cotton selectors belong to the private sector.
- g. Classing Rooms, Fibre Testing Laboratories and Lecture Rooms in Cotton Standards Institute (at Karachi, Sukkur and Multan) have been established and equipped with the**

modern and sophisticated instruments. The Fibre Testing Laboratories also provide the Test-House facility to the ginners, spinners and the exporters.

- h. Some of the better cotton from Pakistan graded under the new system are now also quoted in Cotlook Price Index ‘A’ whereas previously these were being quoted only under Cotlook Price Index ‘B’ which has a price discount of five to seven cents per pound.

The PCSI standards can improve Pakistan’s cotton value in the international markets and provide quality cotton for local industry.

1.4.1.1.3. Present Status

In order to establish the Institute on permanent footing as an autonomous body, the Cabinet in its meeting held on January 2, 1994, approved as under:-

“Pakistan Cotton standards Institute (PCSI) may be established as a permanent autonomous body through an Act in order to introduce and implement the seed cotton grading and lint cotton standardisation programme: training of cotton graders, classes and arbitrators”

In pursuance of the aforesaid decision, draft bill to establish PCSI prepared by the Ministry (FA & L) and duly vetted by the Ministry of Law, Justice and Parliamentary Affairs was submitted to the Cabinet for approval of the draft bill and its promulgation as an Ordinance. The Cabinet in its meeting held on October 17, 1994 was pleased to approve the promulgation of the draft bill as an Ordinance. The Cotton Standardisation Ordinance was then promulgated on November 10, 1994 and subsequently re-promulgated on following dates, pending enactment of Bill:

Repromulgation dates of the Cotton Standardisation Ordinance,

- a. March 15, 1995
- b. July 17, 1995
- c. November 19, 1995
- d. March 7, 1996
- e. July 4, 1996
- f. January 13, 1997

In the meantime, Pakistan Cotton Standards Institute has become functional. It has its headquarters at Karachi with two regional centres at Multan and Sukkur. The present strength of the Institute is 200 out of 128 are Cotton Field Officers (BPS-16) who have been trained to implement the cotton grading programme at ginning level. *The Institute is thus at take off stage to implement the grading system and therefore requires legal backing through an Act required for its establishment and to implement the pre-tested grading system in the best national interest.*

In order to implement the cotton standardisation and grading programme, the ECC in its meeting held on 1st July, 1996 had also decided the following:

- a. Ministry of Commerce may allow Karachi Cotton Association to issue daily spot rates of cotton on grade and staple basis, rather than on variety, in order to induce quality consideration in cotton marketing.
- b. In order to upgrade Pakistan cotton and realise its intrinsic value on world market, the private sector exporters should purchase cotton duly graded under the supervision of skilled classers of PCSI.

1.4.1.1.4. Salient Features Of The Cotton Standardisation Bill

The Cotton Standardisation Bill would provide for establishing Pakistan Cotton Standards Institute to perform following function:

1.4.1.1.5. Functions of PCSI

The functions of the Institute would be to introduce and implement standardisation and quality control of cotton, and to

- a. Establish cotton standards and seed cotton grades for classification:

- b. prepare, approve, and sanction standards boxes and seed cotton boxes;
- c. apply quality control for export of cotton and its handling procedures in certified ginning factories;
- d. conduct classification of lint cotton and issue lint cotton quality cards for each lot;
- e. conduct training of persons in cotton grading and cotton classing of ginners, spinners and exporters of public and private sector institutions;
- f. settle disputes of classification and grading amongst sellers and buyers of seed cotton and cotton lint;
- g. apply cotton fibre testing technologically using internationally accepted instrumentation, to review and introduce improved methods of testing;
- h. recommend minimum premiums and discounts for varying qualities of cotton;
- i. issue post-graduate diplomas to successful trainees in cotton classification, arbitration and appeals, and cotton fibre testing;
- j. provide for programmes for research, information and application of technology for cotton standardisation.

1.4.1.1.6. Management of PCSI

The general direction and administration of the Institute shall vest in the Board which may exercise all powers and do all acts which may be exercised or done by the Institute under the Bill. The Board shall consist of the following:

Representative each of:

- a. Ministry of Food, Agriculture and Livestock
- b. Ministry of Commerce
- c. Ministry of Finance
- d. Government of Sindh
- e. Government of Punjab
- f. Cotton Export Corporation
- g. Karachi Cotton Association
- h. All Pakistan Textile Mills Association
- i. Pakistan Cotton Ginners Association
- j. Textile Commissioner's Organisation
- k. Chamber of Agriculture, Sindh and Punjab
- l. Director, PCSI (Member secretary)

The chairman of the Board shall be appointed by the Federal Government and hold office for a period of three years.

The Board has been constituted with Federal Secretary Agriculture as its Chairman and the Chairman, Karachi Cotton Association as the Vice-chairman of the Board. Furthermore, an Executive Committee comprising members drawn from the Board has also been formed to function as the Principal Administrative Body of the Institute. The Institute is headed by a Director (BPS-20)

1.4.1.1.7. Funding

As the main source of income, as provided under Section 22 of the Ordinance, the Institute may charge a fee as charges of standardization of the cotton at such rates as the Federal Government may fix by notification in the official Gazette. However, pending the implementation of the system the Institute is being supported by the Government through grants, as under:

Table 1.4.1: Annual Grant from Government

Years	Grant (Mill. Rs.)
1995-96	10.00
1996-97	14.00
1997-98	15.00
1998-99	16.18
1999-2000	17.00

In addition to above, the Institute has been earning around Rs.1.0 million annually through fibre testing facilities and training programmes offered to the private sector. The available funds are insufficient for the budget estimate of Rs.25.17 million for the year 1997-98, with present strength and scope of activities. The Institute can become self-financing by charging a fee of Rs 10.00 per bail, if the grading requirement is made mandatory. Assuming an average cotton crop size of 10.0 million bales, the Institute may thus earn Rs. 100.00 million annually. It would be able to establish a net work of fibre testing laboratories and classing centres to facilitate the cotton growers, ginners, spinners and the exporters at their doorsteps. At the same time, the project loan obtained from the Asian Development Bank for establishing PCSI may also be paid back in a few years time.

1.4.1.2. Cotton Crop Estimation

Along with a marketing mechanism which is based on objective quality standards, accurate and timely crop estimation is very important. The present cotton estimation methods being used by the Crop Assessment Committee does not provide accurate results. Since crop estimation is based on data provided by Provincial Revenue departments, which are quite primitive in their methodology, the use of Geographical Information Systems (GIS) needs to be incorporated for accuracy of data collection. However, GIS cannot be deployed solely for cotton crop estimation; it has to be incorporated as a component of the overall Land Record Management systems that need to be developed to substitute the age old 'Patwar system.'

1.4.1.3. Storage & Transportation

Storage & Transportation is again a weak area needing development. Modular transport of cotton to ginneries with weigh-bridges is recommended and this has to be driven by price premium by the ginneries. On the supply side farmer education will play a role. Government must encourage the formation of farmer cooperatives and NGOs like FAP could play the role of a facilitator and preparing a model in this respect. Marketing Cooperatives will play a critical role in educating and supporting the small farmers. These will eliminate many of the current cotton market deficiencies.

1.4.2. Issues in Contamination

In Pakistan Cotton is hand picked yet it is contaminated with different types of non-lint contents in the seed cotton. According to a survey conducted by Central Cotton Research Institute (CCRI) Multan and Punjab Agriculture Extension department in December 1997, the average contamination in our cotton is around 7% as compared to 3% in USA with machine picking.

Contamination means the non-lint contents which gets mixed with cotton during transit from the farmers' fields to ginning factories. Contamination of leaf trash, burs, pieces of cotton sticks and grasses, etc., takes place at farmer's fields during picking. Picking of cotton early in the morning results in very high moisture contents that the dryers at the ginning factory are not able to remove. Most of the small farmers sell their produce to the middle men /agents of ginning factories who pool the seed cotton along road side in the form of open heaps before filling into boras (jute bags). At this stage other contamination like human hair, poultry feathers, pieces of biscuits, threads and polythene wrappers are added due to careless handling, sweeping operation and wind blowing. At ginning factory level, the pieces of jute thread is a major source of contamination that gets mixed in the seed cotton when boras are un-loaded.

1.4.2.1. Suggested Solutions to Minimise Contamination

- a. The most effective way to minimise contamination is through a commercial incentive. When the ginners pay a premium to the farmers for clean cotton they can afford to pay higher wages to labour for clean picking.
- b. Picking should be started after 10 AM instead of early in the morning.
- c. The cotton dealers / traders also need to be educated regarding careful handling of seed cotton during transport and storage. All traders should use brick flooring raised one foot high from the ground to avoid contamination. These can only be implemented when minimum standards for storage and transport are made and strictly enforced through Cotton Control Act, and cleaner cotton commands a premium.
- d. Pieces of jute can be eliminated by using "boras" made of cotton cloth or atleast stitching of these "boras " by cotton thread.
- e. In the ginning factories cotton bales should be wrapped in cotton cloth instead of hessian cloth.
- f. The steel strips used in the packing of bales should be of good quality to avoid breakage during transportation.
- g. Standardised packing material for seed cotton & lint cotton should be introduced and legislation should be approved for its execution by the provincial authorities.
- h. Pre-cleaning of seed cotton and post- cleaning of lint should be made mandatory for all Ginners. These measures may be incorporated into the rules of the Cotton Standards Act of the Provincial Governments.

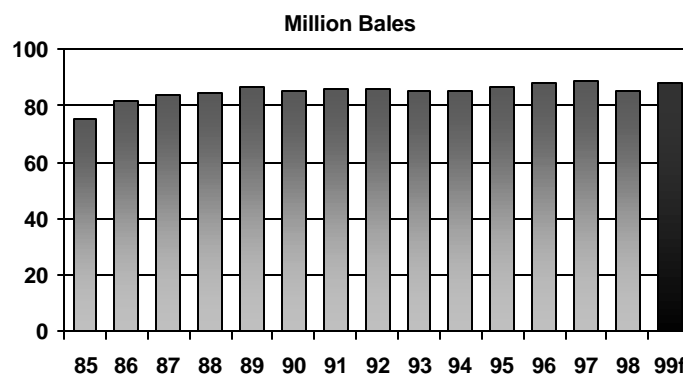
The issue of non-lint contamination is adopting serious proportions for Pakistan's cotton produce, right across the value chain. Starting from cotton lint, all along till finished garments, contamination depreciates value drastically and limits the use of domestic cotton to low-value added products. The progress players in the textile industry are moving into higher value added products only through imported cottons where their competitive advantage is reduced.

1.5. Cotton Consumption

1.5.1. World Mill Consumption

As shown in the figure below world cotton mill use has been 18.5 to 19.3 million MT for the last seven years. There was a decline in mill use in the year 1998 that was attributed to the slow down in world economy and especially the Asian crisis starting in mid 1997. The financial turmoil in Japan effected the South Asian countries too. The world forecast of cotton mill use for the year 2000 and 2001 is 19.4 and 19.6 million MT respectively. The growth in cotton mill use is around 1.5 to 1.75%.

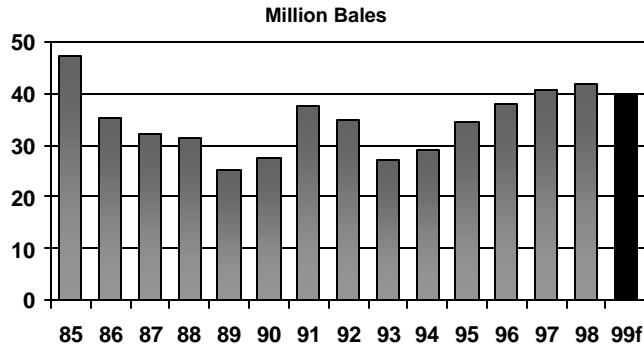
Figure 1.5.1: World Cotton Mill Use



The ending stocks of cotton from the previous year have direct bearing on the prices of the new arrivals. High ending stocks of China depressed the international cotton prices in December and January last. There

was a slow down in cotton purchases from China and it was feared that China would release its stocks on the world market. However this did not actually happen as the stocks in China were mostly of inferior quality. The ending stocks of 9.9 million MT in 1999 was the highest after 1997, when the stocks peaked at 9.9 million MT. The figures below have been given in million bales of 480 pounds (218 kgs). Pakistan bale is of 170 kgs.

Figure 1.5.2: World Cotton Ending Stocks



1.5.2. Man-Made-Fibre’s Impact on Cotton Consumption

Textile Fibres can be divided into three basic types according to their source:

1. Cotton Fibre
2. Man Made Fibre
3. Wool

In the last ten years the percent share of cotton has shrunk from 48% to 39% in the total world fibre consumption. Manmade fibres that include polyester, acrylic, nylon, rayon and viscose have taken more than 58% of the total share. Polyester has by far the largest share within the man-made-fibres, which is more than 80%.

Figure 1.5.1: Share of Fibre Consumption-1988

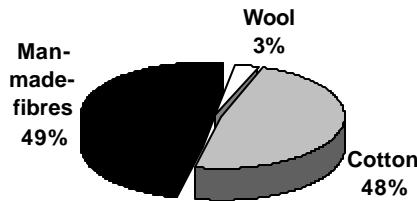
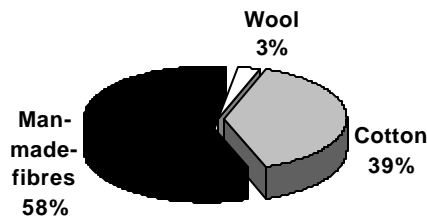
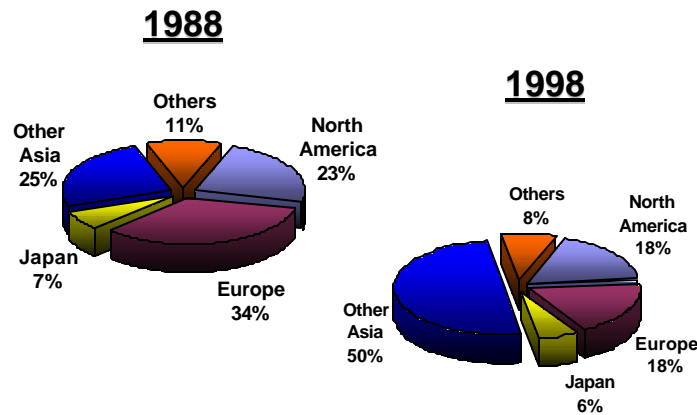


Figure 1.5.2: Share of Fibre Consumption-1998



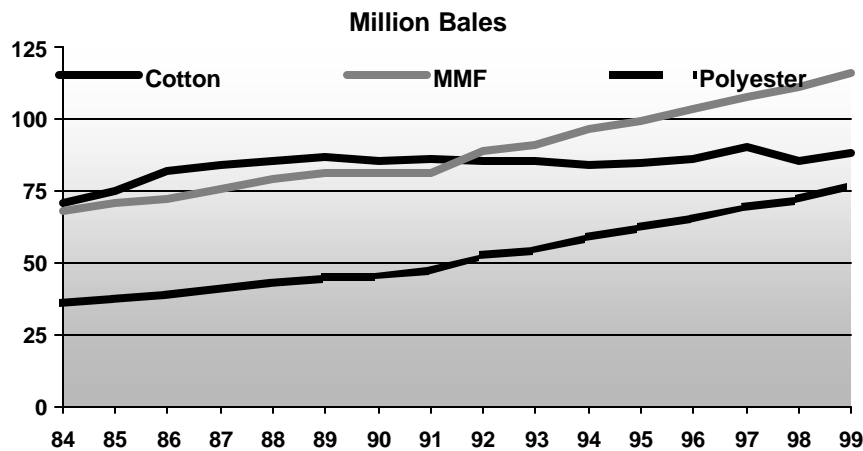
Source: ITMF, 1999

Figure 1.5.3: Change in Demand of Man-made-fibre



In the graph below it can be seen that use of cotton fibre is stagnant.

Figure 1.5.4: World Fibre Consumption-Cotton & MMF



The black line represents the growth in consumption for cotton fibre, which is almost stagnant, grey line is for total man-made-fibre. The demand for man-made-fibre exceeded cotton after 1991-92 and is now growing very rapidly. The dotted line is for polyester. More than 75% of world production of man-made-fibres is taking place in Asia. The leading countries are China, Korea, Japan and Taiwan.

1.5.3. Pakistan’s Consumption

Cotton consumption in Pakistan has been growing steadily since 96-97 and the forecast for the domestic mill consumption this year is about 9.5 million bales. However the “ending stock to use ratio” (year end at July 31) this year would be the highest at 0.33 since 92-93 when it was 0.34. The reason for this stock build up are the imports prior to the last crop, which was large. This would place pressure on December 2000 cotton lint price. The textile industry needs to be de-linked from domestic supply of cotton alone. Cotton production is a cyclical in nature. In a ten years time period there are bumper as well as bad crops. The textile industry must be made competitive and be free to import cotton in case of lower domestic production.

Figure 1.5.1: Pakistan Cotton Consumption

(Figures in thousand bales)

	Produced	Mill Consumption	Imports	Exports	Ending stock
1993-94	8,041	8,608	448	407	2,168
1994-95	8,000	8,640	891	189	2,166
1995-96	10,496	9,216	156	1,834	1,738
1996-97	9,373	8,960	357	152	2,327
1997-98	9,184	9,088	154	0.47	2,058
1998-99	8,832	9,216	1,200	8.97	1,898
1999-00	10,300	9,200	373	692	2,966

Source: APTMA & KCA July, 2000

The ending stocks: 1991-92: 3.7 mill bales - S/U: 0.34
 (Year End Jul 31) 1999-00: 2.9 mill bales - S/U: 0.33

1.6. Cotton Marketing

Evaluation of cotton is based on grading according to staple, grade, and character. Staple refers to fibre length. Grade refers to colour, brightness, and amount of foreign matter. Character refers to the diameter, strength, body, maturity (ratio of mature to immature fibres), uniformity, and smoothness of the fibres. Cottonseed is a valuable by-product. The seed goes to oil mills where it is delinted of its linters. The linters are used for padding in furniture and automobiles, for absorbent cotton swabs, and for manufacture of cellulose products such as rayon, plastics, and lacquers. The bare seed is then cracked, and the kernel is removed. The hulls, or husks, are used as feed for cattle. The kernels provide cottonseed oil. The cake and meal are used for feed and flour.

1.6.1. Historical Perspective

Free trade of cotton existed in the country until 1974, when the Cotton Export Corporation (CEC) was created to control the cotton lint markets through public sector policies and to eliminate free market forces. Prior to this, the Karachi Cotton Exchange (KCE) functioned independently as an international marketing organisation along with the Liverpool and New York Cotton Exchanges, where local and international trade was freely conducted.

With the formation of the CEC, forward trading of cotton was banned and private sector export of lint stopped. The CEC was the only agency allowed to export cotton at government regulated prices. From the mid-seventies onwards, export duty on cotton was imposed ranging between 30% - 35%. This had two distinct consequences: One, a large subsidy was provided to the local spinning industry and secondly, the quality of ginned cotton suffered badly because of the inefficiencies of the state run CEC.

The local spinning industry reacted by spinning cotton at far lower counts than the potential of the varieties (at 12- 20 counts in place of 18 – 40 counts), and exporting large quantities of low quality yarn. At one point in the early eighties, Pakistan held about 80% of Asia's low count yarn market. The high levels of subsidy on cotton along with phenomenal growth of the crop production (over 100% in 10 years at an annual rate of 10.3% during the 80's), triggered large investments in the spinning industry starting in the latter half of the 80's. Unfortunately, a large portion of the unregulated subsidy on cotton was passed on to Japanese and Korean investors who financed local industry on the basis of 'costs plus profit' basis. The local spinning industry, epitomised by All Pakistan Textile Mills Association (APTMA) ignored re-investment into upstream quality production of cotton. Varietal mixtures, poor quality ginning and contamination of jute and polyester fibres became the hallmark of Pakistani cotton despite its excellent genetic potential. The CEC's role in abetting poor picking and processing of cotton was further exacerbated by APTMA's short-term profit motives of making windfall profits from cotton subsidies.

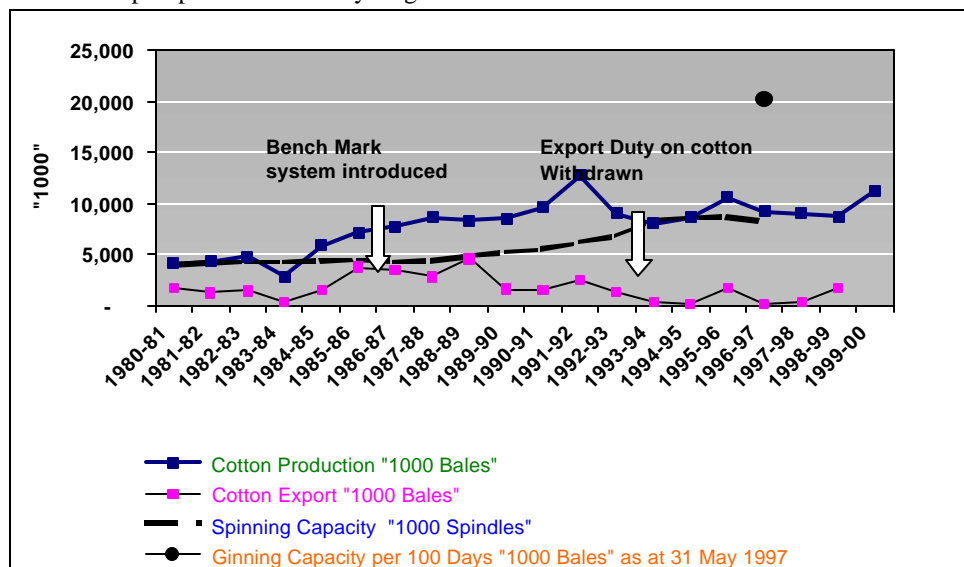
In 1987, the direct export duties on cotton exports were replaced by a bench mark system, whereby the price available to the exporter was set by the commerce ministry regardless of his sale price. The government withheld the amount above the benchmark prices as export duty. Simultaneously, export of cotton by the private sector was allowed too. The benchmark system removed any incentive for quality improvement in cotton that the private sector could have instituted.

In the end, APTMA became a victim of its own success. The installed capacity of spinning mills had increased rapidly to the point where little cotton was being left over for exports. The CEC's role was minimised and private exporters became more active in exporting raw cotton. In the year 1991-92 cotton production rose to a peak of 12.8 millions bales, up from the 3 year moving average of around 9.5 million bales. This happened partially due to the introduction of the new variety S-12 that had a very high GOT of 41%. The government and the industry set this as the new bench mark for cotton production for the future and planned for 15 million bales of cotton by the year 1995-96. S-12 was badly hit by CLCV and cotton production dipped down to 7.9 million bales in 1993-94, creating a huge over capacity in ginning and spinning units.

In the same year, the Task Force on Agriculture, managed to lobby for a major shift in government policy through a decision to remove all export duties on cotton for ever. The industry was struck by a shortfall in production and exposed to international prices simultaneously. Many spinning units were closed down and the golden era of APTMA came to an abrupt end.

For the next few years, the spinning industry had to survive on leaner profit margins largely due to its own inefficiencies and the changing global demand for quality cotton and yarn. Since the past two years, the industry has been importing cotton from Central Asia, Turkey and Australia. Although imported cotton is at time costlier than local cotton, the quality factor makes its import viable.

The endemic problem of varietal mixture at the field level, ginning factory floor, high trash content and contamination still remains the major constraint to the development of a competitive cotton value chain. The captive farmers are hit by low yields due to virus or by low prices if the yield rises. This year (1999-2000) the crisis has hit growers with an enormity that may cripple agrarian economy in the fertile cotton belt of the country. High international production, falling international prices and bad quality have made Pakistani cotton virtually non-saleable in the international markets, while the crippled local industry does not have the capacity to pickup the entire crop. In the absence of the CEC to provide subsidized purchases, the entire cotton chain has been choked. The spinning industry may have a relief of cheap cotton after many years but the future prospects are not very bright.



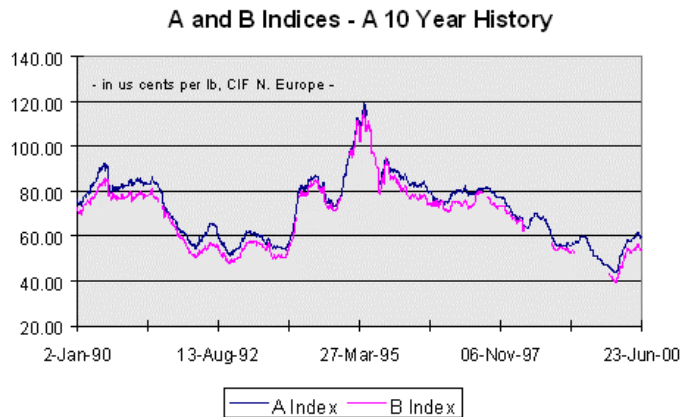
Note: The upward lift at the end of production graph is provisional, but that has caused the current crisis of marketing.

1.6.2. Decline in International Cotton Price

There has been a slow down in world GDP growth starting in the middle of 1997, largely contributed by the Asian financial crisis. The slowdown led to a decline in commodity prices from Asian countries and the financial crisis exacerbated this problem further. The crisis reduced effective demand for these commodities and the Non-Fuel Commodity Price Index fell 16% between October 1997 and May 1999.

As a result of the slow economic growth, textile demand suffered serious setbacks. The largest hit were the developing countries where textile consumption growth was 0.5% instead of the projected 2.5%. The graph below of the trend of international prices of Cotton Index A and B show a continual decline over the past five years. If we magnify the period of Index A price over the past 30 months, we see an even more pessimistic picture.

Figure 1.6.1: A and B Indices



The decline in international prices has a direct bearing on the domestic lint price. The situation, which occurred in the previous season, can be seen in the graph above where the prices touched a record low in December 1999 in the last ten years.

Figure 1.6.2: Current Index 'A'

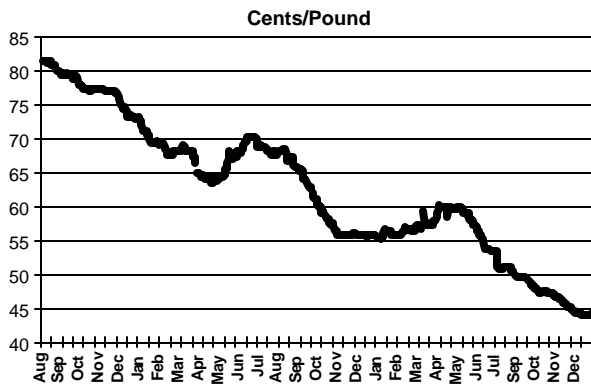
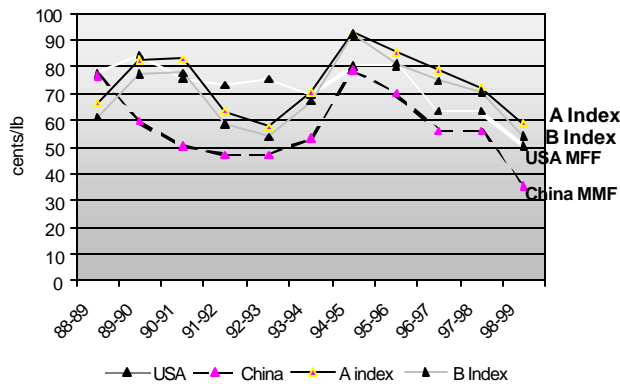


Figure 1.6.3: Price Comparison- Cotton & Polyester



1.6.3. Price Stabilisation Mechanism

1.6.3.1. The Reasons for decline in Phutti prices 1999-2000:

Sometimes the economy is confronted with an unusual and exceptional situation when the price of an agricultural commodity such as cotton starts crashing. Under pressure of a domestic and international oversupply position and low aggregate demand, prices drop rapidly and the cotton growers are the worst sufferers. This is what happened in Pakistan in case of the cotton crop in this season.

Towards the end of September 1999, there were indications that the country was heading for a bumper cotton crop of about 11 million bales. The mill sector had already imported about 1.5 million bales in the previous year and the ginneries were saddled with unsold stocks of 0.25 million bales from the previous crop. On the international scene, world production was forecast at 88 million bales (up from 84 million bales in the previous year) as compared to stagnant world consumption of about 84 million bales. The world carry-over stocks were expected to swell from 41 million bales last year to 45 million bales this year. China alone had expected carry-over stocks of 17 million bales. These bearish factors exerted a downward pressure on international prices and the New York Cotton Futures fell to 51.33 cents per lb. on 27 September, 1999 as compared to the average price in the previous year being 73.45 cents per lb.

The impact of the bearish domestic and international situation resulted in a crash in domestic prices of lint cotton at the end of September 1999 to Rs. 1,750 per 40 kgs. as compared to an average of Rs. 2,695 per 40 kgs. in the previous year. Similarly the prices of seed cotton crashed to Rs. 700 per 40 kgs as compared to an average of about Rs. 966 per 40kgs. in the previous year. As the season progressed and the quantum of cotton arrivals increased, the ginneries were faced with a situation where the uptake was not comparable to the arrivals and the situation worsened. There were reports of phutti being sold as low as Rs. 500 per 40 kgs in Punjab and in some parts of upper Sind the prices floored to about Rs. 375 per 40 kgs.

In order to avoid a repeat of a similar situation this year there is a dire need to take some short term measures. The role of TCP has been enhanced and is now expected to play a similar role as the CEC. This might be a necessity in the short-term but TCP's role should gradually diminish.

1.6.3.2. Prospects for Year 2000-2001

The rally in local markets since the start of the year continues to show strength. The higher price stems from fewer foreign supplies, increased consumption, recovery in the Asian economies, and higher synthetic fibre prices. Dry weather and the threat of another drought across several major U.S. cotton growing areas could curtail the potential U.S. crop substantially.

World stocks were lowered slightly to 39.9 million. Carryover in China remains a hefty 13.5 million. However, that is 4 million bales less than they had a year ago. Expectations are that Chinese farmers will plant less cotton in the year 2000-01 because of weak prices. The price of cotton over the last ten years has always peaked in the month of June and is the lowest in December. The cotton consumption forecast for the year 2000-01 is higher than that of the previous year. Index A prices have remained steady over the 60 cents mark in June and carried on in July. The projections for the coming crop are not favourable especially in India and China. Reports on the US also indicate a lower than expected crop. Although crop cultivation has been affected in lower Sind, where water deficiency has handicapped the farmers, the crop position in Punjab is good. Due to water deficiency more farmers have cultivated on seed bed, which requires less water. This should result in a higher average yield. September will be the crucial month for the Pakistani crop. Indications up to now are favourable for a crop in excess of 10.5 million bales.

In the USA because of reduced foreign supply and increased demand, the "A" Index continues upward. It is already less than 10 cents per pound below the 66-cent level where the loan deficiency payment (LDP) disappears. For the new season, foreign (other than USA) production is expected to fall short of foreign use by around 12 million bales. That is a significant increase in the short fall from a production deficit of 9 million in 99/00 and only a 4-million bale deficit gap in both the 1997 and 1998 crop years. This tightening of foreign supplies indicates a strong market for US exports and a higher "A" Index. Exports from the

00/01 US crop could reach the 8 to 9 million bale range. In 1994, U.S. cotton exports totalled 9.4 million bales following several years of large foreign production-consumption deficits that peaked near 14 million bales during the 1993 crop.

Strong exports and the drought threat to the US crop may result in the December '00 futures price rally going to the 65- to 69-cent range. **The 65-cent level is a round number that will need fundamental market forces to overcome. Also, December '00 futures need to rise above 65 cents for producers to receive 58 to 62 cents per pound, depending on the local basis. Speculators continue to be bullish.**

1.6.4. Problems of Cotton Marketing in Pakistan

Cotton markets in Pakistan have suffered from ambivalence and uncertainty ever since the trade was de-regulated in 1993-94. From the mid-seventies, the CEC virtually dictated cotton trade and prices through direct intervention and export control mechanisms. Following the removal of the Bench Mark system or Export Duty structure in 1993-94, the cotton trade was abandoned to a fragile system that is subject to violent price fluctuations on the basis of the supply situation. Due to the concurrent withdrawal of export duty (through the Bench Mark system) and a drop in production due to the CLCV, domestic prices soared above export parity prices. From 1995-96 onwards, domestic consumption passed the 9 million bale mark, further adding to the bullish trend of prices. Local industry resorted to imports, both in order to meet the domestic shortfall and also to have access to higher quality cotton (especially in terms of being contamination free), to meet its need for shifting to higher quality products. In 1998-99, over a million bales of cotton were imported in anticipation of continuous low domestic production. But in 1999-2000, contrary to expectations, there was a sudden turn around in domestic production and a large crop came in. Concurrently, international prices dipped to their lowest mark in the last ten years. Suddenly a crisis was created whereby domestic prices fell sharply by 40–50 percent, causing hardships and resentment amongst growers.

The crash of cotton prices was termed as 'the failure of free market mechanisms' by the growers and renewed demands for re-establishment of public sector interventions. Mistrust between growers and the industry (mainly the spinners) reached new heights, putting the Government in a tight spot whereby it had no option but to choose between the survival of the growers versus the survival of the spinners. **In fact it is not the failure of a market mechanism but the absence of a real market mechanism that creates volatility in the system.**

The Government has been compelled to re-introduce public sector interventions through TCP since last year as an urgent but interim step with no permanent solution in sight. The situation is fraught with the possibility that TCP will get permanently entangled in the cotton trade, thereby negating the reasons for which the CEC was dissolved. With this backdrop, the problems of the cotton market can be summed up as:

- a. Cotton prices are linked to supply alone with no regard for quality and international linkage. Hence the level of production determines the price of cotton. Fluctuations in production (which are natural) create violent price fluctuations to the detriment of either the growers or the industry.
- b. Falling international prices and poor quality in domestic cottons makes exports uncompetitive. The local industry is geared for low quality cotton and cannot sustain quality premiums.
- c. Cotton arrivals are concentrated in three months but consumption is all year round. The absence of forward trading and hedge markets adds to the volatility of prices, and makes markets susceptible to manipulation in the hands of those who have access to liquidity.
- d. Middle markets are virtually non-existent. Either the ginners or the spinners have to carry stocks, distracting their cash flows from their main line of business and increasing their inventory costs.
- e. The majority of growers are small and cannot afford to market their cotton lint and seed separately after contract ginning. Ginners have to operate as processors and traders concurrently, giving them a manipulative advantage on the one hand and a handicap of risk on the other, especially in the absence of a hedge market.
- f. With a large number of small, uneducated growers it is difficult to manage quality since many intermediary marketing agents are involved from the farm to the ginning factory. This factor

- exaggerates quality deterioration in the absence of strict regulations and price sensitivity to quality.
- g. Ginners have a limited capacity to hold cotton – **1.5 bales at the most at one time**. Arrivals far exceed uptake during the months of November to January by at least one million bales per month. Financing becomes a limiting factor in their operations. Price fluctuations, especially downward shifts, further reduce their liquidity and holding capacity. Therefore, there is a need for either a public sector agency to carry stocks or private sector warehousing companies.

In view of these problems, a fundamental issue has to be resolved by the Government: Whether to indulge in public sector interventions once again, against the general drift towards open, market driven policies or to regulate the market mechanisms so that they operate rationally.

The institution of a permanent public sector agency to regulate prices and stocks is inconceivable under the new economic order developing in Pakistan and globally. Therefore, a phased approach needs to be developed that can create stability in the short term through TCP and enable long-term development of stable market conditions. This can be brought about through the establishment of two missing links: one, hedge markets for cotton and yarn, and two, intermediary markets through the evolutionary development of commodity warehousing businesses. The two links have a symbiotic relationship; one can not exist without the other.

1.6.5. Commodity Warehousing Services

The emphasis of the Textile Policy Vision 2005 is on higher value addition and expansion in the portfolio of the garment sector. As the industry is gradually moving into a higher technology orbit it is demanding a better quality of raw material. There is a need to preserve and build quality into our raw cotton. In line with this, storage facilities for cotton will have to play the following roles.

- a. Smoothen the supply of cotton to the market that will help maintain stable prices during the peak supply months of December and January.
- b. Protect the natural fibre from being contaminated by the environment and foreign materials.
- c. Provide a missing link in the storage infrastructure necessary for the development of better organised middle markets.
- d. Build larger lots of lint having similar characteristics. This will add value for the spinning industry and should induce them to paying premiums for this service.

Pakistan needs to develop storage facilities to store grain, oilseeds, pulses, rice as well as cotton. Multi-product silos developed in the private sector will support the government initiative towards deregulation of crop procurement and dismantle the plethora of ineffective and expensive subsidies. The year 2000 saw Pakistan produce a bumper wheat crop in excess of 22 million tonnes, which now is in danger of spoilage as the storage facilities are inadequate. According to conservative estimates, the minimum loss in the wheat crop could be 5-7% because of improper storage.

These warehousing facilities should be the fore runner of a commodity exchange. As in all developed agricultural economies, the commodity exchange plays the key role of insulating the stakeholders from violent fluctuations in prices. The commodity exchange will provide the base for local traders and investors to hedge their contracts with international exchanges. For KCA to operate its cotton hedging efficiently there is a need to develop warehousing for cotton. Having discussed the importance of these private sector warehousing and silos facilities, the "hows" need to be addressed.

To encourage this, there will have to be some real encouragement in the form of incentives offered by the government. These can include:

- a Provision of land on long term lease solely for this purpose.
- b Attractive fiscal incentives.
- c Privatisation of government facilities lying for years of under-utilisation.

- d Invite overseas companies having requisite expertise in agri-commodity storage and bulk transportation.
- e Resolve taxation issues (including sales tax) so that intermediary entrepreneurs/traders in cotton middle markets are encouraged to join the formal economy. Currently majority of the cotton and yarn traders are investor-entrepreneurs operating informally. It is this class of operators who will graduate into setting up commodity warehousing enterprises, given the right incentives.

1.6.6. Cotton Export

Pakistan must become a regular player in the international cotton export market. In situations of surplus as happened this year, the export orders in the world market **are firmed up** well before Pakistan's cotton arrivals and by December and January the tenders available are at a discount of more than 10 cents per pound from the International Cotlook Index 'B'. This translates into more than Rs. 95 per 40 kg discount for cotton.

For the last three years, Pakistan has not exported significant volumes of cotton to international markets. There are two factors contributing to this. One, there was no surplus cotton production after Pakistan's domestic mill sector needs were met. Two, the permission to export involves a lot of red-tapism and unless there is a security of a surplus, cotton export is discouraged. This results in situation where Pakistan loses its presence in the export market and the cycle of exports is broken. This year with surplus cotton, exporters also exploited the situation by delaying purchases to bring down prices. *Cotton trade should be kept liberal and environment created to facilitate the routing of cotton from Central Asian countries like Uzbekistan through Karachi Cotton Exchange.*

Import orders for cotton are firmed up in the months of April and May for the next season's crop. If and when our exporter goes in the market, after MINFAL's crop assessment committee gives a green signal, orders at good prices are not easily forthcoming. This results in a very strong downward pressure on domestic prices as was seen this year.

1.6.6.1. Membership of International Organisations

Registered Export Associations of Pakistan must become members of International Organisations like the Committee for International Cooperation between Cotton Associations (CICCA). KCA should be a regular participant at the Liverpool Cotton Association and keep abreast with developments in the world cotton markets. Pakistan Central Cotton Committee (PCCC) will have to play a more dynamic role in keeping the stake holders farmers and ginners better informed with the changes taking place in the international market. Organisations like CICCA have the following objectives, which are crucial for Pakistan to achieve better prices for its tenders.

Figure 1.6.1: CICCA Objectives

The objectives of CICCA are to:-	
1.	provide opportunity for discussion between Member-Associations of matters of importance to the cotton trade;
2.	maintain contact with other international organisations concerned with raw cotton, as and when may be considered appropriate;
3.	uphold the standards of trading practices in the cotton trade;
4.	promote the proper performance of contracts and to lessen the circumstances which lead to technical (ie "commercial") disputes;
5.	assist in countering attempts to evade compliance with Arbitration Awards in respect of contracts which provide for the settlement of disputes through the arbitral systems of Member-Associations;
6.	circulate to Member-Associations a consolidated list of firms reported to have failed to properly comply with valid arbitration awards made by Member-Associations;
7.	provide a directory of firms trading in raw cotton, which are members of Cotton Associations elected as Member-Associations of CICCA.

1.6.7. Cotton Futures Market

1.6.7.1. Cotton Hedge Trading

During meetings with stakeholders, the Chairman of Karachi Cotton Association emphasised the importance of resuming hedge marketing of cotton and restarting the cotton futures market in Pakistan. The chairman explained that the Association has urged the Government to permit resumption of hedge trading. The Government has not yet accorded its approval. It was explained that the Association has amended its by-laws relating to hedge trading in cotton. These by-laws bring hedge trading in conformity with the present day situation and requirements to ensure that they run in an orderly fashion. One important milestone in favour of hedge trading is the viewpoint of the State Bank's committee which has accorded its approval to hedge trading from an economic and religious viewpoint. The major impediment in allowing hedge trading in cotton is the religious injunction invoked in the 70's by the Ulema on misguided fears that this may lead to gambling. In fact, hedge markets eliminate the 'gambling' element out of commodity marketing for the genuine producers and end-users. However, the speculative activity by independent traders is always there and cannot be prevented even in the absence of hedge markets. This fundamental issue needs to be resolved for development of a stable cotton market in the country.

Three committees have been constituted in the past to study the issues of hedge trading in Pakistan. All the three committees, 1953, 1965-66, 1971-72, recommended that hedge trading is the answer to price stabilisation and its positive aspects far outweigh the weaknesses. A new committee may be formed to review the amended by-laws of KCA and suggest additional changes which it deems fit to safeguard the interests of all the stakeholders; growers, ginners, APTMA and the exporters. This committee should immediately be constituted so that hedge trading can resume from next season. This would dovetail with the introduction of cotton standards in Pakistan.

1.6.7.1.1. Withdrawal of Sales Tax

Sales Tax at present is being levied at the ginning stage. As a result of this, huge funds of the ginners and exporters get tied up. *Sales tax inhibits the activities of exporters and it is recommended that sales tax should be levied on cotton yarn and then onwards in the textile value chain.*

1.6.7.2. What is a Futures Contract?

A futures contract is an agreement to deliver a specified quality and quantity goods during a given time period at specified location(s). Sometimes, in case of commodities, the contract allows for different grades of the asset to be delivered. Under such cases the contract clearly defines how the price of the asset is to be adjusted in case the quality is different from that stipulated. The contract also defines how the price is to be adjusted for delivery to the different locations allowed. Futures contracts are traded at an exchange, which regulates all its workings.

Futures contracts can be used by all segments of the textile chain for hedging purposes if contracts are available for both lint cotton and yarn. Physical delivery of the asset does not usually take place. Instead a futures position is closed, prior to expiration, by taking an opposite position.

Suppose the cotton ginner wants to hedge his risk. In order to hedge he will take a short futures position (i.e. short hedge). Prior to expiration, delivery date, he will close out his position by going long the same number of future contracts. If the price of cotton falls during the period, the ginner does not fare well on the sale of cotton but makes a gain on the short futures position. If the price of cotton goes up the ginner makes a healthy return on the sale of cotton but a loss on the short futures position. It is important to note that hedging through futures does not necessarily improve the outcome. Rather 50% of the time the outcome will be worse. A futures contract reduces the volatility or in other words makes the outcome more certain. The cotton ginner thus ensures that he gets a reasonable return, which could have been a phenomenal return or a loss if futures had not been used. A yarn spinner can hedge against price fluctuations in both his raw

material (lint cotton) and end product (yarn). He will take a long position in lint cotton and a short position in yarn thus ensuring a reasonable profit. The weavers, knitters, and hosiery manufacturers can hedge against price fluctuations in their raw material (yarn) by taking a long position in yarn futures.

Hedge ratio is the size of the futures position to the size of the exposure. The optimal hedge ratio is not necessarily 1. The optimal hedge ratio is dependent upon the correlation between the spot and futures price along with their standard deviations.

1.6.7.3. Main Features of the Futures Contract

Following are the main features of futures contracts. Some need to be specified in detail to remove/reduce chances of conflict and speculative trading while others need to be addressed to ensure maximum benefit for the intended user.

1.6.7.3.1. Asset

The quality or qualities of the asset have to be clearly defined.

1.6.7.3.2. Contract Size

Size of the contract should be dependent on the requirements of the intended user. If the contract size is too small then the trading costs are too high and if the size is too large then investors who are interested in taking up small exposures will not have access.

1.6.7.3.3. Delivery Arrangements

How the asset should be packaged should be defined. Delivery location (along with alternatives) should be specified. Futures contracts are referred to according to the delivery month. The precise period during the month, if not the whole month, when delivery is to be made should be specified. The exchange determines when trading in a particular month's contract can start and continue till, which is usually until a few days before the execution period.

1.6.7.3.4. Daily Price Movement Limits

The exchange can limit the price by which the contract's price can move up or down. Whenever limit up or limit down is achieved, trading is suspended for the day unless the exchange steps in and changes the limit due to prevailing circumstances.

1.6.7.3.5. Position Limits

The exchange limits the total number of contracts an investor can have outstanding at any point in time along with a limit on how many contracts of a particular month can be outstanding. The futures exchange needs to regulate the trading of contracts to ensure its members don't default.

1.6.7.3.6. Margins

The minimum initial and maintenance margins are set by the exchange. The maintenance margin is usually 75% of the initial margin. Brokers are allowed to set higher margin requirements but not lower. Some brokers allow the investors to earn interest on their margin account.

1.6.7.3.7. Marking to Market

Accounts are marked to market daily to minimise the possibility of default by an investor.

1.6.7.3.8. Clearing Margins

As the broker maintains the margin accounts for its investors the clearinghouse does the same for its members. Those brokers who are not members of the clearinghouse have to channel their business through the members. Clearing margin is calculated on the basis of net margining which means if a member has a client with a long position in 10 contracts and another client with a short position in 5 contracts, then margin would be calculated on the basis of 5 contracts.

A futures market for both cotton and yarn can stabilise prices, which otherwise are extremely volatile during the year. Prices are volatile because of uncertainty of the size of the crop and the requirements of the industry. Ascertaining the size of the crop will become easier because cotton ginners will short as many contracts as they expect to gin during a given period (the time difference between corresponding contracts), which is dependent upon the quantity of raw cotton they expect to receive from their suppliers (cotton farmers). The requirements of the industry can be calculated by looking at the futures position of spinners, weavers, knitters, and hosiery manufacturers. Deviations from world prices due to local supply demand conditions will be corrected by arbitrageurs if import/export of cotton and yarn are not subject to regulations. The arbitrageurs will act as a stabilising force in the industry. The element of speculation can never be eliminated from financial markets but can be controlled through regulation. Players within the textile chain can reduce the influence of speculation by properly utilising the futures market themselves.

1.6.7.4. Resumption of cotton Hedge Trading in Cotton¹

In principle, hedging in cotton means that a businessman making a transaction (buying or selling) in cotton or its products will, at the same time, make an opposite transaction (selling or buying) in cotton futures. As prices thereafter advance or decline, a gain in the one transaction will normally be offset by corresponding loss in the other. The risk of price change is thus reduced to a minimum and the businessman can devote his efforts to performing his own special function in the trade without unduly exposing himself to the hazards of wide fluctuations in the prices of his commodity or raw material.

1.6.7.4.1. The Utility Of Hedge Trading

All segments of the cotton economy, i.e. the growers, the ginners, the textile mills and the exporters are benefited by hedge trading which facilitates the smooth and efficient marketing of cotton.

Growers

A grower at planting time may desire to fix the price of a part or all of his anticipated cotton production if he finds the cotton prices attractive at sowing time. If December futures prices are satisfactory to him, he can lock in his prospective profit by selling December futures. When he harvests his cotton and sells it, he will buy back his December futures. By using the futures market to hedge his production, he has assured himself of receiving a satisfactory price of his produce, thus ensuring his profits.

Ginners

The ginner has to buy his requirements of seed cotton (Kapas) either at a fixed price or on an unfixed basis. When he purchases the seed cotton at a fixed price and the lint (ginned cotton) is not sold, he is exposed to the risk of wide and sometimes unmanageable price fluctuations of lint. In order to overcome this risk, he can cover his risk by selling the proportionate quantity of cotton in the hedge market.

When he purchases the seed cotton on an "unfixed" basis, it is always the option of the grower (seller) to fix the price at his option. If the grower fixes the seed cotton at a peak price and the ginner has not been able to sell the ginned cotton, he can take advantage of the hedge market to cover his risk against falling prices.

Textile Mills

A spinning mill may be able to make an attractive sale of yarn or cloth for delivery at some distant date in the future, but may be unable to immediately acquire the specific quality of cotton desired. The mill can go ahead and sell the yarn or cloth and hedge by buying cotton futures. When the desired cotton becomes available, the mill will buy it and sell his cotton futures contracts, thus avoiding losses arising out of wide fluctuations in the prices of raw cotton.

¹ Excerpts from KCA Proposal presented by Dr. Zafar Hussain, former Chairman KCA

Exporters

A cotton exporter can also cover his forward export sales by buying cotton in the futures and can sell his futures contract as soon as his forward sale contract is fulfilled by the acquisition of ready cotton. Hedging in cotton thus helps the shippers to entertain export business all the year round without necessarily buying cotton until the date of shipment. This is particularly useful when actual cotton is not available at fixed prices in the beginning of the season. The absence of a futures market would not only deprive the exporter of a hedge cover, but will also cause a set-back in the smooth disposal of the exportable surplus of a commodity like cotton in the world market.

1.6.7.4.2. Findings of Committees On Hedge Trading

The findings of the three high powered Enquiry Committees set up by the Government of Pakistan from time to time have justified and established the need, utility, effectiveness and benefits of a 'futures market' or a hedge market in cotton for all the sectors of the cotton trade.

The Government of Pakistan in 1953 under the chairmanship of Dr. Nazir Ahmed, then the Chairman of the Tariff Commission appointed the first Hedge Enquiry Committee on Cotton. After detailed examination, the Committee concluded that "the opening of the futures trading would serve the interests of the producers, the middle man and manufacturers alike by stabilising prices, guaranteeing deliveries and payments against contracts, minimising risks involved in price fluctuations and stimulating improvements in the quality of the crop".

The second Hedge Contract Enquiry Committee was appointed in 1965 under the chairmanship of Mr. S. Osman Ali, the then Secretary Economic Affairs Division, Government of Pakistan, in order "to study the adequacy otherwise of the existing hedge contract. After a detailed investigation, the Committee concluded that the (futures) contracts in its present form had proved equitable to the buyer and the seller and that no untoward situation had come to the light during the enquiry to call for any radical changes in the structure of the contract".

The third Cotton Hedge Contract Enquiry Committee was set up by the Federal Government in the year 1971 under the chairmanship of Mr. Vaqar Ahmed, the then Secretary, Establishment Division, Government of Pakistan. After thorough examination, it concluded: "the Committee have come to the conclusion that hedge trading is essential and is serving the basic purpose for which it was designed".

It may be concluded from these extensive enquiries conducted several times by eminent functionaries of trade and the Government that the benefit and usefulness of a cotton hedge market has been amply established. The cotton hedge market, under the aegis of the Karachi Cotton Association, will benefit the cotton economy throughout Pakistan and will facilitate Pakistan immensely in the product of its local and international trade in cotton crop to the benefit of all the sections of the cotton trade.

The history of hedge trading in cotton in Pakistan is commendable. The Karachi Cotton Hedge Market was run by the KCA very successfully and was perhaps the only other cotton futures market in the world after the New York Cotton. Futures Market, which worked so well under the By-laws of the KCA which have been duly approved by the Government.

1.6.7.4.3. Establishment Of CEC and Discontinuation of Hedge Trading

After the nationalisation of the export trade of cotton in 1973, the Cotton Export Corporation (CEC) was set up to handle export of cotton exclusively in the public sector. Following the establishment of the CEC, hedge trading in cotton was discontinued by the Government in 1975-76. Since then, hedge trading remains suspended.

The Government has now introduced the policy of privatisation, liberalisation and deregulation of trade and industry in the country. Following this policy, the role of the CEC has been considerably reduced and the private sector has been inducted in the export trade of cotton since 1987-88. The export trade of cotton was

further de-regulated during 1994-95 and the policy of free trading in cotton has been introduced by the Government successfully. Under this policy, the export of cotton by the private sector has been allowed without any restrictions and free of duty. The import of cotton has also been allowed at zero rated tariff. Under the trade policy for 1995-96, the policy of free trading in cotton had been made permanent and retained for the future three years i.e. 1995-96, 1996-97 and 1997-98.

The hedge trading in cotton is complementary and an adjunct to free trading in cotton. It is essential for the proper conduct of the national and international trade in cotton. By hedge trading, the prices will be stabilised and interests of all sections of the cotton trade will be safeguarded equitably. This has become still more necessary in view of our increasing production of cotton over the years, which has to be marketed efficiently for the benefit of all sections of the cotton trade including the cotton grower.

1.6.7.4.4. Resumption of Hedge Trading in Cotton

The Federal Export Promotion Board in its meeting held at Islamabad on 29th May, 1995, under the chairmanship of the Prime Minister of Pakistan decided, in principle, that in view of free trade policy of cotton, hedge trading in cotton may be allowed.

The Karachi Cotton association has revised its by-laws in order to suit the present day conditions and requirements and ensure that the market is run efficiently, effectively but with due and necessary precautions. These by-laws had been sent to the Ministry of Commerce for approval. The revised by-laws reflect the feasibility of resuming cotton hedge trading in Pakistan, and also give the modalities of the scheme in detail.

The by-laws have been carefully revised and updated after making a thorough examination of the existing by-laws by various Committees appointed by the Board from time to time. According to the revised by-laws, cotton has been allowed to be tendered in all the ginning factories in the upcountry for the facility of the buyers and sellers and imported cotton has also been allowed to be tendered to avoid any possible squeeze or pressure on the market. The marginal deposits have been substantially increased in order to ensure payments against the contracts and enforce performance. Besides, the members of the Clearing House who would be allowed to operate in the hedge market, will be required to pay substantial amount by way of cash deposit to the Association, besides furnishing bank guarantees depending on the category of the membership. This has been done to ensure that only viable parties operate in the hedge market. Other members of the Association and non-members will be allowed to operate in the hedge market through the members of the Clearing House. As the cotton crop has now started coming earlier in recent years, in addition to the usual four delivery months i.e. January, March, May and July, a new delivery month, i.e. November, has been introduced so that the facility of hedge cover for delivery during this month also becomes available. Besides, the five contracts would run simultaneously for the benefit of the participants in the cotton hedge contract.

1.6.7.4.5. Control and Supervision of The Hedge Market by The Government

The Cotton Board and the Ministry of Commerce have, in the past, kept a strict watch on the operation of the hedge market and exercised control under the Cotton Act, 1957 so that the market runs properly and efficiently. Vast powers have been conferred on the Government under the Cotton Act according to which no by-laws, rules and articles of the Association can be altered except with the prior approval of the Government. Besides, four Government Directors representing Ministries of Industries, Commerce, Finance and Agriculture are nominated on the Board of Directors of the Karachi Cotton Association, which keeps a watch on the operation of the hedge market. Thus, considerable powers have been vested in the Government under the Cotton Act, 1957 to exercise vigilance and effective control of the hedge market to be run by the Karachi Cotton Association.

1.6.7.5. Hedge Trading in Other Commodities

Hedge trading is already in operation in Pakistan in oil seed cakes, stocks and shares, and foreign currencies. With the resumption of hedge trading in cotton, which has been in vogue intermittently since early years after establishment of Pakistan till 1975-76, all sections of the cotton trade will be benefited.

Apart from that, hedge trading is not compulsory and it would be optional for the traders of cotton to use or not to use the hedge market. If any one is not interested in having the facility of the hedge cover and is prepared to take the risk of fluctuations in prices consciously, he may do so at his own risk and consequences. Besides, those who do not take the advantage of hedging in fact do speculate rather than those who cover their position in the hedge market.

In brief, hedging provides a viable security cover against the risk of fluctuations in prices similar to life insurance policy, and it performs an economic function and is necessary for the smooth conduct of national and international trade in cotton and efficient marketing of the cotton crop. Above all, the KCA by-laws contemplate that buyers and sellers of cotton should basically intend taking or giving deliveries of cotton, and thus those who hedge in raw cotton essentially offset their positions against actual cotton or cotton-related transactions.

1.6.7.6. Indian Experience with Cotton Futures

The East India Cotton Association (EICA) has completed in December last, a full one year of trading in the new generation of cotton futures in India. Unlike the cotton futures contracts in vogue till the mid-sixties, which were based on seed varieties and were therefore more farmer friendly, the new Indian Cotton Contract (ICC) launched on December 5, 1998 is more consumer (spinner) friendly. It is no longer variety-specific as in the past, but is essentially based on the spinning properties of cotton. The emphasis has thus shifted towards the description of major quality parameters like staple length, micronaire, fineness and strength of fibre from the location specific origin of cotton.

In cotton, the primary consumers of fibre are the spinning mills, though its eventual end-use is in cloth. As it is, the demand for cotton is mainly a derived demand - derived from the demand for cloth. The demand for cloth, in turn, is highly income elastic by volume as well as character. With rising household income, not only does one need more cloth, but also chooses better quality fabrics. The qualitative improvements in cotton fibre thus become imperative, as the national income grows in absolute and per capita basis. At the same time, since the demand for cloth is also price elastic, it is necessary to improve the spinning efficiency and performance so as to bring down the cost of yarn and thereby that of cloth.

In the circumstances, by introducing a new generation ICC, the Cotton Exchange has indeed taken a singularly bold step towards improving the quality of Indian cotton. Incidentally, it is also a serious attempt at reforming the prevailing trading practices in the physical cotton markets and bring them in line with the practices preferred in the developed countries of the world.

This apparently unusual step was all the more necessary as the Indian cotton and textile economy integrated into the world cotton and textile economy, following India's membership of the World Trade Organisation (WTO) and the impending liberalisation of tariff, non-tariff and quota regimes in both cotton and textiles in the world. In fact, the International Textile Manufacturers Federation (ITMF) has also been proposing to the cotton producing countries in the world since September 1994 to standardise the international cotton marketing contracts on the basis of the High Volume Instrument (HVI) style spinning specifications of fibre, and to include therein terms relating to humidity and moisture, contamination, as also bale marking and wrapping. The United States Department of Agriculture has already incorporated since 1995 HVI quality parameters into the Universal Standards Agreement that it enters into with American cotton importing countries, including India, at regular intervals.

Periodical surveys carried out by the ITMF have repeatedly revealed that the level of contamination and other quality drawbacks in Indian cotton are far more than those in cotton of other major cotton producing and exporting countries, notably U.S.A., Australia, China, Pakistan and most African countries.

The Exchange has prescribed the `basis' of the ICC as Roller Ginned (R.G) 26 mm Fine cotton (based on 2.5% span length) having micronaire in the range of 3.6 to 4.2 and minimum strength of 18 gm. per tex in 1/8% gauge stelo level. However, any Indian cotton, including Saw Ginned (S.G.), with staple length ranging from 24mm to 29mm with two classes "on" and one class "off" from Fine (i.e. from fully good to Extra Superfine in grade) and micronaire ranging from 3.3 to 4.5 of the same strength as the `basis' is also

tenderable against the ICC, subject to appropriate premia or discounts as may be fixed between the 1st and 7th day of each delivery month.

While the unit of trading has been fixed at 55 bales of 170 kg each (equivalent to a 10-tonne truckload), the unit of price quotation is in rupees per quintal for delivery at seller's godown. Deliveries are allowed at any place in the country where cotton is pressed, though the Exchange may modify, before permitting trading in any delivery month, the places where cotton cannot be tendered. Delivery period extends from the 16th to the last working day of the delivery month. The contract is believed to be sufficiently broad based, as it covers almost 60% of the cotton crop in the country.

On the introduction of ICC, there were fears that this contract may not function fairly well. For one thing, most of the physical cotton business, including even marketing of unginned seed cotton (kapas) in the regulated markets of the country, is still being carried out on location specific seed variety basis. The new generation ICC terrain seems rather unfamiliar to a large section of the cotton trade and industry. For the other, the physical market prices (including the spot prices) for the prescribed basis and tenderable varieties are not readily available at any reliable sources for efficient price making in the futures market. The initial behaviour of the ICC, whose prices often did not appear to be reflective of spot prices of different varieties, partly confirmed these apprehensions. Surprisingly, however, the December 1999 delivery of the ICC disclosed a fairly interactive relationship with the reported upcountry spot prices of most varieties. What is more, the ICC appears to have proved especially beneficial to merchants and stockists for short hedging after the onset of the new 1999-2000 cotton season on October 1, 1999.

The December 1999 delivery even attracted tenders of 7 units (385 bales) during its delivery period. True, delivery is not the essence of a futures contract in commodities, which is really a tool for risk management. Nevertheless, the total tenders, though too small, suggest that the ICC is being used to some extent for short hedging, for deliveries could be issued by only those who trade in physical markets and not by pure speculators. Prima-facie, therefore, contrary to the earlier apprehensions, ICC seems to have turned the corner. It still remains somewhat intriguing that ICC is more often than not quoted at a discount (backwardation) below the spot price of the basis and other comparable varieties.

Thus, as late as on November 25, 1999, i.e. just before the commencement of its delivery month, the December '99 ICC contract was quoted at a discount of as much as Rs 329 per quintal (about 7.5%) below the spot price of the basis variety. The backwardation was even much higher at Rs 497 (almost 11%) for the comparable 26mm LRA5166 which used to be actually at par with the basis till early October 1999. What seems perhaps more disturbing is that even the subsequent February and April 2000 deliveries of the ICC have been at a heavy discount below the spot prices of the basis although the cotton marketing season has all along been in full swing.

Normally, the new crop delivery of the futures contract is, no doubt, quoted at a discount below the spot prices of the old crop, as stocks are then small, giving rise to high 'convenience yield' which exceeds the storage costs and thus inverse the net carrying charges.

But such discount gives way to premium as soon as the new crop arrivals begin and gather momentum, reducing thereby the convenience yield on stocks, which varies inversely with the volume of storage. The storage costs then assert positively in the futures price, resulting in what market parlance describes as 'contango' (premium). Disappointingly, not only did this not happen for the December '99 delivery, but also for the February and April, 2000 deliveries of the ICC. This was despite the reports of a bumper crop forecast of 175 lakh bales for 1999-2000 compared to 163 lakh in 1998-99, and a large carry-over stock estimate of 36.50 lakh bales as against 30 lakh at the beginning of the previous year.

The backwardation in a futures contract is far from healthy, as it reduces the economic utility and efficiency of the contract for risk management by merchants and stockists. As the spot and futures prices are normally expected to converge during the delivery month of the futures contract, the backwardation results, more often than not, in dissimilar price movements in the physical and futures markets. This impairs the desired parallel relationship between the physical and futures prices, which is so vital for effective risk management.

Luckily, the sharp slump in cotton prices since the start of the new crop season seems to have averted such an adverse phenomenon in the December '99 delivery of the ICC. It appears that ICC is a 'bearish' contract. With deliveries permitted at over thousand odd pressing centres in the country, and price being quoted at ex-seller's godown, the contract creates considerable uncertainty in the minds of buyers on delivery and transport costs. As a result, the buyers of ICC would necessarily tend to quote a low price for it, resulting in unusual backwardation.

The unfamiliarity with the HVI style contract specifications, the odd and somewhat high trading unit of 55 bales and a wide range of deliverable varieties with large price differences also add to the uncertainty among buyers and have therefore probably rendered the contract even more bearish. The Cotton Exchange should have a fresh look at the ICC and locate carefully the causes of frequent backwardation in it. For such an exercise, it should also take into confidence the representatives of the Indian Cotton Mills Federation, the Cotton Corporation of India, the Maharashtra State Co-operative Cotton Growers' Marketing Federation and the cotton co-operatives from selected states so as to evolve one or more balanced futures contracts. It is only in that manner that the Exchange can devise suitable ways at improving the economic utility and efficiency of the Indian Cotton Contract.

1.6.8. Developing a Cotton Marketing Plan

In the following paragraphs a marketing plan has been discussed which may sound a bit futuristic at this stage but provides insights on improving the existing marketing mechanisms. The farmers of Pakistan must have a more mature marketing outlook and subsidy oriented dependence on the Government will never provide them with the required return. As a cotton producer, one must now operate in a free market and identify marketing opportunities. Producers tend to spend most of their time on crop production and too little on marketing crops. Yet, time spent to improve marketing decisions can increase return on farm investments.

Selling on market highs versus lows can increase gross income as much as 50 percent. However, to take advantage of this opportunity, the grower must develop the extra dimension of marketing knowledge that has traditionally belonged only to the merchant. The cost of getting these skills is taking time to learn about cotton marketing. The cost of not getting these skills is the loss of the opportunity to increase substantially the return on investment.

The old adage, "a farmer has to take whatever the buyer wants to give for his products," doesn't have to be true anymore -- especially for cotton producers. Today's cotton grower has many marketing alternatives available. He can **market** his cotton and not just **sell** it. By developing an intelligent and calculated marketing plan, the farmer can assure himself of a reasonable profit -- even before he puts a seed in the ground.

1.6.8.1. Marketing or only Producing

Having produced a healthy cotton crop is just not enough. Unless the marketing mechanism allows for a fair profit, the farmer will look for other options in the following season. Cotton marketing requires two distinct activities: market research and decision making. **Research** entails many specific functions, and its goal is to keep current on production alternatives, cost, yields, investments, expected and historical price performances, world supply and demand, and various marketing alternatives.

Making a **decision** is an art because it requires predicting future prices. While one must use his own best method, the more successful growers tend to base their judgements on estimates of the direction and speed of price movements. These estimates should come from understanding the world cotton supply and demand trends and from historical price comparisons. Though the farmer is not expected to have an insight of the global market, he should be informed about the domestic cotton demand. The seasonal price patterns and a knowledge of past market performance do help, but these require constant adjustments as world wide conditions change.

The result of all these factors is **less price certainty** and more risks for the cotton growers. To survive, the grower must sharpen his understanding of the market and the marketing alternatives available.

1.6.8.1.1. Plan Ahead

Determining a marketing objective should be the first step of production. Marketing is the decision-making process that determines **what** crops to plant, **when** to fix the selling price, and **how** to implement the decision to sell. The goal is to get the highest possible return on farm investment.

When a farmer plants a crop with a marketing scheme well in mind, he has begun merchandising cotton rather than simply "selling it."

1.6.8.1.2. Selling

- Quality or grade easiest produced
- Most convenient time
- Most convenient place
- Whatever price offered

1.6.8.1.3. Marketing

- Quality or grade with most profit potential
- Most profitable time
- Most profitable place
- Some control over price and profit

A cotton grower conscious of each of these marketing steps can increase his net returns. For instance, quality or grade potential can be affected by production practices, and the most profitable time to merchandise will vary throughout the year but is generally not at harvest time. The most profitable place may be the cash market or the futures market.

When the farmer has a complete production and marketing plan, he can make the best management decisions every step of the way. Then, and only then, can he produce profits and not simply cotton. The problems the small farmers have in cotton marketing will be solved only through the formation of farmers' co-operatives and FAP must play its role in providing the farmers with a model. Co-operatives marketing of cotton would allow smaller farmers to fetch better price as bigger lots would allow them to leverage their position against the ginners and would not be at the mercy of the price offered.

1.6.8.1.4. Factors Affecting Cotton Prices

The cotton market is world wide, and prices are tied together at all times by differences in time, form, and space. Price differences between each of the futures months reflect returns to storage over time. Transportation charges between markets reflect the cost of products over space and influence prices paid or received for commodities. The difference in the spot price of raw cotton and printed cloth represents the value of processing and handling raw cotton.

Two causes are generally associated with the variation in cotton prices over time: (1) a change in supplies and/or demand by areas, or (2) imperfections in the information system that helps establish price. The standard grading system and the market news service help improve communications and decrease imperfections in the pricing system. This again underscores the importance having a grading and standardising system in Pakistan. The price of cotton in any particular year results from the interplay of supply and demand forces.

Production and carryover of cotton each year and the total market demand largely determine cotton prices received by farmers. Cotton prices at the farm level are derived from the demand for cotton goods and are also influenced by factors affecting the cost of processing raw cotton into consumer goods.

1.6.8.1.5. Marketing Objective

To merchandise rather than sell cotton, the farmer must have a marketing objective. First he has to decide that what and how much to produce. If the farmer has a solid financial position and wants to speculate, he may want to take his chances at harvest or hold his production in storage to sell when he thinks prices are highest. If he wants to store his cotton and be sure of a good profit, he may plan to pick an opportune time and hedge in the futures market.

1.6.8.1.6. Production Cost

The farmer can't determine his anticipated profit until he first determines the production costs. But once he knows these costs, he has then to decide how many acres of cotton to grow and watch cash contract offerings and futures prices; and determine when to "lock in" a satisfactory price.

To arrive at an "asking price" the farmer would be willing to accept for his cotton; he should work through a production budget. Total all variable and fixed costs, and then add some return to management and investment capital. The asking price should be both reasonable and profitable. The **cash market** is simply the market where most growers normally sell -- their local cotton buyers.

If the farmer operates entirely on the cash market, he never knows if he will make any money until his crop is produced. Even if he stores his cotton for later sale, he is still speculating unless he has forward priced with cash contracts or hedged in the futures market. Which again underscores the importance of resuming the cotton hedge markets in Pakistan. **Cash contracts** let you know in advance if you will profit or lose on your crop.

The **futures market** also allows pricing the crop before delivery. The farmer can hedge his crop before it is planted, while it is growing, or while it is in storage. Because many buyers and sellers are involved in the futures market, prices are usually pushed to their highest levels. When the farmer is ready to market (deliver) his cotton, he simply buys back his futures contract and sells his cotton in his local cash market.

Learning to use the futures market can give the farmer maximum satisfaction from his cotton marketing. *If used properly, it can almost always guarantee an acceptable price each year.*

1.6.8.2. Summary

Marketing cotton for the best possible return often depends upon the marketing alternative adopted. The farmer can no longer sit back and just accept any price the cotton market offers at harvest or the market price when he decides to take his crop out of storage.

The farmer should be given the right to choose one of these alternatives:

- Sell at harvest.
- Contract for sale before planting.
- Contract after planting, booking part at a time.
- Sell part of crop at harvest and store the remainder for later sale.
- Store and sell at intervals over several months.
- Hedge in futures market.
- Use a combination of the above options.

None of these options is necessarily better than the other. The option one will choose and the marketing program one will develop should always fit the farm plan. The plan must be tailored to meet individual farm unit needs and, in fact, may vary from year to year. However the small farmers cannot be expected to make informed decisions until he has a platform like the farmers co-operatives.

2. Ginning Industry of Pakistan

Ginning is the process for separating lint from seed cotton. Lint is the term used for fibre after the seed has been removed at the gin. Historically the lint was removed from the seed by hand. Eli Whitney invented the sawgin in 1793, which was a collection of circular blades installed on a central shaft. McArthur invented the first roller gin in 1840, which consisted of single or double rollers covered with rough leather used to separate lint against a set of dull knives.

2.1. Introduction

The ginning industry has mushroomed in the cotton growing areas of Pakistan informally, without adequate regulation. Cotton Control Acts of Punjab and Sindh from the 40's era have been continuing without consequential amendments and desperately need to be updated. Most of the industry is in the hands of local traders who have upgraded their enterprise from mandi commission agent operations or cotton intermediary trading by installing sawgins. There are a few old, ginning families in Sind and Punjab whose next generations have continued with the industry. By the nature of ginning activity, as explained earlier, it is more entrepreneurial trading than a processing activity, since the ginner has to play with the market risks of lint and cotton seed prices. The technology deployed is primitive (from the 40's), inefficient and based on local manufacturing in the hands of semi-literate mechanics. Even progressive gidders are handicapped in terms of access to technological progress.

Pakistan is a major cotton producing country with good quality medium to medium long staple varieties. However, as in other sectors of the economy, its cotton sector suffers from a number of problems related to non-application of standards, ginning practices and poor management.

There are 1,221 ginning factories in this country. The Cotton Belt is moving southward in the Punjab over a number of years, and is also coming up in the district of Nasirabad in the Baluchistan province, where gin factories do not exist as yet. The annual cotton crop growing area is about 3 million hectares.

The cotton crop matures first in the Sind and then gradually up the Punjab plains. Cotton has three pickings, where the first picking is considered the better yield pick. The third pick has the least fibre value and is used as waste or in quilts.

Basic units and measures used in Lint Cotton are:

- Cotton Lint Bale Size 18"x22"x44"
- Bale weight 170 Kg
- 1 Maund of Phutti weighs 40 Kg
- 1Maund of Lint Cotton weighs 37.324 Kg
- Contamination: Human hair, shreds of clothing, cigarette butts, Jute fibres, animal hair, polyvinyl strips, toffee wrappers
- Ginning period per year 90 to 100 days.
- Phutti required for 1 lot 100 bales 1,300 maunds (52,000 Kg) of Seed Cotton (Phutti) (17,500 Kg) of Cotton Lint.
- Ginning capacity in Pakistan 302,000 bales per 24 hour day

2.2. Ginning Process in Pakistan

2.2.1. Seed Cotton Transportation and Storage

Seed cotton to the ginning factory is mostly transported in boras (jute bags sewn with jute yarn) or on tractor trolleys fitted with frames wrapped in hessian cloth and polypropylene bags sown together to form a big cotton-holder. In this way more volume can be carried to the factory from the farm or wholesale



market. Shreds of the white coloured polypropylene and the jute thread (sayba) are sources of major contamination problem in the process of spinning and weaving.

The seed cotton is not stored under covered sheds or proper storage facilities. It lays open in the gin factory's or wholesale market's yard and all the dust and trash gathers into it. Contamination such as toffee wrappers, polyvinyl bag pieces, dust from passing vehicles finds its way into it. Also overnight dew adds to the moisture content and causes deterioration of the colour quality of cotton fibre that effects its dyeing and finishing characteristics. ***For these reasons, the Pakistani cotton quality image suffers and depreciates the international price being fetched.***

Most ginning factories buy seed cotton from the wholesalers (Aarhti) and lay it out to dry in the sun for 3 to 4 days. The ginning factory owners pay the Aarhti, once the rate for seed cotton has been agreed upon. The ginning factories also contract processing for big farmers or for Aarhtis who stock up on cotton lint. Ginning factory profits are linked to the Ginning Out Turn (G.O.T.) which is the percentage of lint in the seed cotton.

A term called "Khoat" (trash content) is used to describe the discrepancy between the seed cotton purchased by the gin factory and the sum of weight of cotton lint and seed. Controlling the level of moisture in seed cotton is a major issue. Moisture content in excess of 10% causes serious problems and uses more electric power. Power consumption is a major cost factor during the ginning process. Picking cotton during early morning hours is a source of moisture, which is retained in the lint since cotton is highly hydroscopic in nature. High level of moisture results in weakening of the seed. The weakened seed breaks during the ginning process and its removal is not possible.

A ginning factory basically consists of following three types of machines

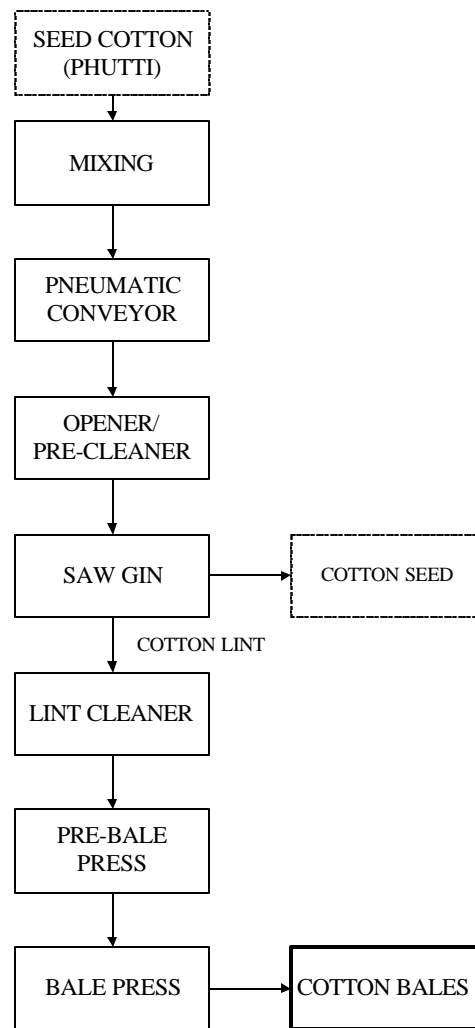
- a. Pre-ginning machines
- b. Ginning machines
- c. Post-ginning machines

2.2.2. Pre-Ginning Machinery

It is observed that when seed cotton is brought in factory yard, it usually possesses high moisture content, beside contamination in the form of leaves, brackets "saanglies", sticks, stones and sometimes even bricks, which requires cleaning prior to ginning. Different machines are used in pre-ginning operations and their sequence is described in the following text.

The following Figure 2.2.1 illustrates in sequence the different steps of seed cotton ginning.

Figure 2.2.1: Ginning Process Flow



2.2.3. Pre ginning machines

Most gins use vacuum suction to convey the cotton fibre to the cleaning equipment where foreign matter (trash) is removed.

2.2.3.1. Green-Boll Trap "Rock Catcher"

This device was primarily designed to separate unopened cotton bolls from seed cotton. It plays a vital role in separating almost all heavy materials like cotton boll, wooden or iron pieces, stones, bricks, date seeds, and other unwanted heavy material to save the sophisticated parts of the ginning process from damage. The rock catcher works by creating a vacuum in the hopper of G. I. Pipe fitted in the suction line.

2.2.3.2. Heap-settler "Khilari Machine"

The main function of heap settler is to reduce the moisture content and to loosen the condensed cotton especially the one coming from the last pickings (pichhar) and to remove dirt and trash etc. One of the ginning units visited had unique drying equipment installed. It had two mobile arms, which sucked the seed cotton and dropped it from a height of more than 20 feet. According to the ginner, this helped in mixing and removing some moisture immediately before ginning.

2.2.3.3. Separator

The main function of the separator is to separate seed cotton from the conveying air. Vacuum roll and separating role are its major components.

2.2.3.4. Pre-Cleaner/Opener "Jhamba"

Pre-cleaner/opener is used to open or split cotton before ginning, as loose and fluffy seed cotton improves the quality of ginning.

2.2.3.5. Stick Machine/Impact Cleaner

Stick Machine/Impact Cleaner separates cotton brackets, motes (immature seeds), sticks from cotton by creating impact action of cotton over round bars.

2.2.4. Ginning machines

After the pre-cleaning stage, cotton is conveyed to gin stands where revolving circular saws pull the lint through closely-spaced ribs that prevent the seed from passing through. High capacity Pakistani-made gins, having 6 Nos gin stands of 120 saw gin blades, can gin up to 3,953 kg of lint as compared to foreign high-capacity gins available, which can turn out 13,500 kg of cotton lint in one hour. On average, gin stands process 3-4 bales per hour. The units designed by comparatively better technicians go up to 5 bales per hour. This production efficiency is still much lower than newer generation Lummus machines, which process up to 12 bales per hour. Seed removed from the cotton at the gin is cracked to remove seed hulls and then crushed in order to extract the oil from the cotton seed kernel. Crushed cotton seed kernel and hull called "khull" is used separately and in combination as livestock feed for milk producing animals.

2.2.4.1. Saw Gin

In sawgins, the cotton lint is removed from the seed by pulling it with saw teeth through metallic ribs. Each saw passes between two stationary steel ribs spaced so as to allow the lint to pass through while preventing the cottonseed from doing so. The principal parts of a sawgin are saws, ribs and brush or a blast of air for cleaning the lint from the saws.

There are three types of sawgins depending upon the type and number of ribs; the plain, the single rib huller, and the double rib huller. The plain or single-breast gin is only suitable for ginning clean cotton that has no boll, hulls or trash. The double rib huller breast or front is used most, because it gives protection to the ginsaws and removes foreign matters like burs, hulls and leaf trash. The number of saws on the shaft determines the size of a single gin stand, ranging from 90 to 150. The number of gin stands installed and the number of saws per stand determine the size of any ginnery. Vital functional components of a sawgin are described below.

Seed Tube: One of the fundamental developments in saw gin technology over the past few years is the seed tube. The seed tube can be added to the existing gin stands with slight modifications. The function is to evacuate the cottonseed rapidly. This adds to the production efficiency and results in power conservation.

2.2.4.1.1. Saws

There are usually 90 to 150 saws in a gin stand, separated by space blocks about 5/8 inch (16 mm) apart. The saws are 10 or 12 inches in diameter. The speed of the saws depends upon the type of the ginning machinery. In the brush system, the saws operate at a speed of 350 to 450 revolutions per minute (rpm). In an air blast system, the saws run at a much higher speed of 500 to 700 rpm and in modern sawgins 1000 to 1200 rpm. In Pakistan the 500-700 rpm model is the most popular.

The speed, material of saws, saw teeth design and sharpness, geometry of ribs and space between two ribs are very important parameters to be considered for the improvement of ginning performance. Sharpening of the saws is a very serious problem faced by the ginners. Imported saws, which are better in quality cost Rs. 350-450. Local saws are available for Rs. 60-80 (untreated) and Rs. 100 (heat-treated). The practice is to



sharpen the saws after 2000-4000 bales. Almost every factory owner engages skilled personnel on a full time basis to sharpen the saws. The reason for this is to reduce costs.

If a unit of 4 gin stands processes 10,000 bales in a season, it will have to bear Rs. 150,000 in gin saw replacement costs (@ Rs. 400/blade). As proposed this year, the bulk import of saw gin blades should bring the cost down to Rs. 90,000.

This method of manual sharpening increases the cost of production as it reduces efficiency that is not realised by the ginners. This also increases the number of short fibres. The sharpening results in the removal of any heat treatment. The blade loses diameter; a 1/16 inch reduction in diameter results in 15% reduction in production efficiency. The loss in efficiency is compensated at times by increasing the rpm. Sharpening of blades results in change in the angle of the teeth. This damages the fibre, adding to neps and floating fibre.

2.2.4.1.2. Ribs

In the plain gins there is only one set of ribs, while on the huller gins there are two sets. The saws project through the ginning ribs into the roll box and engage the cotton fibre. The ribs are spaced closely enough together so that the saw may revolve without letting the cottonseed pass.

The ribs are shaped such that as the lint is engaged, the partially stripped/ginned seed are pressed forward and upward by the pressure of other seeds, which in turn are brought forward by the saw teeth. Continuation of this process causes the whole mass in the roll box to revolve. After the lint has been removed from the seed, it falls by gravity between the saws through an opening to a seed conveyor. There are two systems used to remove lint from gin saws:

- a. Brush system
- b. Air-Blast system

2.2.5. Post ginning machines

After the ginning is completed, the lint is handled and baled by the post ginning machines, which play a vital role in producing high grade cotton. The commonly installed machinery in the ginning factories is discussed below.

2.2.5.1. Lint flues

When the lint is removed from the saws, it is in a loose fluffy condition and practically floats in the air currents produced by the rapid revolution of the brush or by the current of air blast used to doff the lint from the saws.

2.2.5.2. Lint Cleaner

They were developed specifically for combing and final cleaning to remove the foreign matter i.e. leaf particles, sticks, motes and grass etc; left in the lint through ginning. Saw-lint cleaners grab the lint with a cylinder, and saw and whip it over metal bars to dislodge its trash. However, for roller-ginned cotton, the lint cleaner is composed of three machines: a cylinder cleaner, an impact cleaner and an air-jet cleaner. With the help of these machines, trash content can be reduced from present 8%, which is the norm in the Pakistani market, to 4%, the international market norm. However, the price for this quality is a loss of GOT, which the gin factory owners cannot claim from the spinning mills under the present trading market conditions. Thus, there is a need to introduce cotton fibre standards so that gin factory owners are encouraged to use lint cleaners and to have international trash levels. This would encourage spinning mill owners to buy Pakistani cotton for higher value added products, once the contamination issue has been taken care of.

In Pakistan, very few lint cleaners have been installed on the ginneries but the spinner/textile mill owner is extensively using them. Two types of lint cleaners commonly used are:

- a. Flow through air jet type
- b. Saw toothed type



The use of lint cleaners has shown an enhancement of grade of roughly harvested cotton. In the lint cleaning process, the lint from the gin stand is separated from the conveying air by a condenser to form a bat. This bat is then passed through rollers where it is combed by the help of lint cleaner saws rotating at about 1,000 rpm. The saw drum carries the cotton over grid bars, which aided by centrifugal force, removes the motes and other foreign matters. The cleaned lint is removed from the saw teeth by brushing, which also provides conveying air. The cleaned lint can be directed for subsequent lint cleaning or for baling in the form of a bat.

2.2.5.3. Condenser

As the lint is blown from the lint flue, a certain quantity of water is sprayed into it to prevent the lint from electrostatic currents. The lint is then massed against the screen of the drum while air passes through the wire mesh. It is shocking to note that local ginning units do not have moisture indicators. The moisture level is still measured by the eye of a trained operator.

2.2.5.4. Moisturiser

Before the lint cotton reaches tampers and press for baling, moisture is added to prevent induced electrostatic charges.

2.2.5.5. Trampers

The function of trampers is to loosely press the cotton into the press box as it is received from the condenser.

2.2.5.6. Pressing & Packing

After the cotton has been loosely tramped into the press box, pressure is exerted to reduce the cotton to the size and density of a standard bale. To obtain this great pressure without overloading, a special power source and applications are required. There are three types of presses in use; the screw press, the steam press and the hydraulic press.

Cotton Lint from the lint cleaners arrives on pneumatic conveyors to the pre-bale press. If required, water is sprayed on this incoming lint to maintain the moisture level. This is necessary to avoid a fire mishap during pressing of the bales and also helps in dense pressing of the bales to achieve the contracted weight. At the pre-bale press, loose cotton lint is pressed into the bale housing before sending to the hydraulic press.

Cotton lint in the bale housing is moved to the hydraulic press where it is reduced to its size by applying high pressure. The bale is removed to the storage yard after packing. Previously, hessian cloth was used which has lately been replaced by cotton cloth. The use of cotton cloth is still limited because of its higher cost. The weight of this bale averages from 170 Kg to 175 Kg, whereas the real weight required as per contractual obligations is 170 Kg. A Universal Density (UD) bale is typically 55"x25"x22" and weighs 480 lbs or 218kg. The bale size in Pakistan is normally 52"x20"x18" and weighs 170kg. The compression pressure is lower in case of Pakistani bales. This results in a bigger volume bale and uses more space in shipping. This factor is an issue at the export stage.

2.3. Lint Classification.

Measurements for the following quality factors are performed by high-volume, precision instruments, commonly referred to as "HVI" classification. Unfortunately in Pakistan, grading of cotton is not done on proper lines i.e. on the basis of its fibre length, colour, micronaire, strength etc, and unlike other countries variety standards have been established as qualifying characteristics.

2.3.1.1. Fibre Length

Fibre length is the average length of the longer one-half of the fibres (upper half mean length). It is reported in both 100ths and 32nds of an inch (see conversion chart below).

Table 2.3.1: Fibre Length

Inches	32 nd s	Inches	32nds
0.79 & shorter	24	1.11-1.13	36
0.80- 0.85	26	1.14-1.17	37
0.86- 0.89	28	1.18 -1.20	38
0.90- 0.92	29	1.21 -1.23	39
0.93- 0.95	30	1.24 -1.26	40
0.96- 0.98	31	1.27 -1.29	41
0.99 -1.01	32	1.30 -1.32	42
1.02 -1.04	33	1.33 -1.35	43
1.05 -1.07	34	1.36 & longer	44 & longer
1.08-1.10	35		

It is measured by passing a "beard" of parallel fibres through a sensing point. The beard is formed when fibres from a sample of cotton are grasped by a clamp, then combed and brushed to straighten and parallel the fibres. Fibre length is largely determined by variety, but the cotton plant's exposure to extreme temperatures, water stress, or nutrient deficiencies may shorten the length. Excessive cleaning and/or drying at the gin may also result in shorter fibre length.

Fibre length effects yarn strength, yarn evenness, and the efficiency of the spinning process. The length of the fibre also influences the fineness of the yarn.

2.3.1.2. Length Uniformity

Length uniformity is the ratio between the mean length and the upper half mean length of the fibres and is expressed as a percentage. If all of the fibres in the bale were of the same length, the mean length and the upper half mean length would be the same, and the uniformity index would be 100. However, there is a natural variation in the length of cotton fibres, so length uniformity will always be less than 100. The following table can be used as a guide in interpreting length uniformity measurements.

Table 2.3.1: Length Uniformity

Degree of Uniformity	HVI Length Uniformity Index (Percent)
Very High	Above 85
High	83-85
Intermediate	80 - 82
Low	77 - 79
Very Low	Below 77

Length uniformity affects yarn evenness and strength, and the efficiency of the spinning process. It is also related to short fibre content (fibre shorter than one-half inch). Cotton with a low uniformity index is likely to have a high percentage of short fibres. Such cotton may be difficult to process and is likely to produce low quality yarn.

2.3.1.3. Fibre Strength

Strength measurements are reported in terms of grams per tex. A tex unit is equal to the weight in grams of 1000 meters of fibre. Therefore, the strength reported is the force in grams required to break a bundle of fibres one tex unit in size. The following table can be used as a guide in interpreting fibre strength measurements.

Table 2.3.1: Fibre Strength

Degree of Strength	HVI Strength (grams per tex)
Very Strong	31 & above
Strong	29-30
Average	26-28
Intermediate	24-25
Weak	23 & below

Strength measurements are made on the same beards of cotton that are used for measuring fibre length. The beard is clamped in two sets of jaws, one-eighth inch apart, and the amount of force required to break the fibres is determined. Fibre strength is largely determined by variety. However, plant nutrient deficiencies and weather may effect it. There is a high correlation between fibre strength and yarn strength. Also cotton with high fibre strength is more likely to avoid breakage during the manufacturing process.

2.3.1.4. Micronaire

Micronaire is a measure of fibre fineness and maturity. An airflow instrument is used to measure the air permeability of a constant mass of cotton fibres compressed to a fixed volume. Micronaire measurements can be influenced during the growing period by environmental conditions such as moisture, temperature, sunlight, plant nutrients, and extremes in plant or boll population.

Fibre fineness effects processing performance and the quality of the end product in several ways. In the opening, cleaning, and carding processes, low-micronaire, or fine-fibre cottons require a slower processing speed to prevent damage to the fibres. Yarns made from fine fibre result in more fibres per cross-section, which in turn produces stronger yarns. Dye absorbency and retention varies with the maturity of the fibres. The greater the maturity of the cotton fibre, the better the absorbency and retention of the chemical dyes during the dyeing and finishing process.

2.3.1.5. Neps

Neps are several fibres that are "tied up" in little knots. These neps do not grow naturally in cotton. Mechanical processes, starting at harvest with machine pickers through ginning and further in spinning create them. Yarn imperfections caused by fibre neps are one of the most critical quality problems in yarn manufacturing today. In addition, ends-down can be caused by neps at the spinning frame thus having a direct influence on the spinning efficiency.

2.3.1.6. Colour

The colour of cotton is determined by the degree of reflectance (Rd) and yellowing (+b). Reflectance indicates how bright or dull a sample is, and yellowing indicates the degree of colour pigmentation. A three-digit code is used to determine colour. The colour code is determined by locating the point at which the Rd and +b values intersect on the Nickerson Hunter cotton colorimeter diagram for Upland cotton. The colour of cotton fibres can be effected by rainfall, freezing weather, insects and fungi, and by being stained through contact with soil, grass, or the cotton plant's leaf. Excessive moisture and temperature levels can also effect colour while cotton is being stored, both before and after the ginning process.

As the colour of cotton deteriorates due to environmental conditions, the probability for reduced processing efficiency increases. Colour deterioration also effects the ability of fibres to absorb and hold dyes and finishes.

2.4. Ginning Sector Outlook In Pakistan

The following table briefly describes the ginning sector of Pakistan. It provides a description of ginning units installed. Although the units installed are 1,221, not more than 750 to 800 units are actually functioning in a season. The total industry capacity is more than 20 million bales. The industry is based on technology which was introduced in the late 40s and early 50s. Many of these units are leased out for one

or more seasons. In Pakistan, a unit processing more than 10,000 bales in a season is termed as a large unit. The average units gins 5,000 bales in a season. Although there is little difference in physical capacity, there is a wide difference in the financial capability of individual entrepreneurs. The capital cost of installation of a unit is quite insignificant compared to the working capital requirement of running a ginning operation. This is a seasonal business spread over a period of 100 to 120 days. The ginning units in Sind start operating as early as July. The units in Bahawalpur and Multan operate from the middle of October to mid-February.

Table 2.4.1: Ginning Sector Outlook

Sr. No.	Description	No. of Machines Installed	Capacity/Machine Bales/8 hrs shift	Total Capacity Bales/Day/Shift
1	Machine Type			
1.1	80 Saws	229	12.5 Bales	2,863 Bales
1.2	90 Saws	3,590	16.5 Bales	59,235 Bales
1.3	100 Saws	1,537	22.5 Bales	34,583 Bales
1.4	120 Saws	132	31 Bales	4,092 Bales
	TOTAL	5,488		100,773 Bales
2	Ginning Factories			
2.1	Punjab	1,075		
2.2	Sind	146		
	TOTAL	1,221		
3	Lint Cleaners	123		
4	Oil Expellers	2,585		
5	Roller Gins	755		
Source: PCGA Directory				
* In any season the Maximum No. of Bales produced has been 12.7 Million.				
**This figure can go up to a No. of 36.277 Million Bales on 3 shift basis.				
1. To produce 100 Bales of Cotton Lint we need 52,000 Kg of Seed Cotton.				
2. This gives an average Ginning Out Turn (GOT) of 33% i.e. 17,200 Kg of Lint Cotton.				
3. This is made in the form of 100 Bales of 172 Kg each (average)				
4. By Product of Ginning process is Cotton Seed, which is 32,240 Kg by weight (62% of input weight)				
5. Rest of the 2,560 Kg is Trash				

Some of the units can be relocated to the Nasirabad district in Baluchistan and upcoming areas of cotton in NWFP, like DI Khan.

The majority of saw gins currently existing in the country are of the 90 saw blades type, when advanced nations are using saw gins of 120+ type. Only 10% of the gin factories seem to have lint cleaners, and even those are not being used. Hence, the new textile policy must encourage the use of lint cleaners in our country. In the 1983-1984 period, lint cleaners were imported to Pakistan from the US at the insistence of the Cotton Export Corporation at an FOB price of US \$ 65,000 each, which are now found rusting in the gin factories. From the above PCGA statistics, we also realise that each gin factory has from two to three oil expeller machines on average. Gin factories have better profit margins when they have in house oil expeller units.

2.4.1.1. Ginning Unit Setup & Running Cost

The two charts given below show that to set up a Gin factory is not a major investment, but the working capital requirement is the main factor in the successful operation of a gin factory.

Table 2: Ginning Cost Assumptions

Assumptions	4 Gin Stands (Option A)	6 Gin Stands (Option B)
Working Days /Season	100	100
Bales ginned /hour	8	12
Working hours/day	10	10
Bales/day (bales)	83	125
Bales/season (no of bales)	8,300	12,480
Electricity cost (Rs/KWH)	8	6.5
Electricity consumption (KWH/bale)	24	24
Phutti required (40 Kg)	106,894	160,727
Avg. Phutti Price (Rs/40kg)	725	725
Standard bale weight (Kg)	170	170
GOT (%)	33%	33%
Phutti required / bale (Kgs)	515	515
Cost of phutti required/bale	9,337	9,337
Total Phutti Cost per season (Rs million)	77	117
Cottonseed (Kg/bale) - 52% of phutti	267.88	267.88
Cottonseed Price (Rs/40kg)	250	250
Cottonseed revenue (Rs/bale)	1,674	1,674
Cottonseed revenue/season	13,896,212	20,894,545
Lint selling price (Rs/37.32Kg)	2,000	2,000
Lint Revenue/bale	9,110	9,110
Lint revenue/season	75,616,292	113,697,749
Total Revenue	89,512,504	134,592,295

2.4.1.1.1. Ginning Unit set up cost year 2000 (option A)

- Land 5 acres Required by law @Rs 0.4 million /acre = 2.0 million
- Electric connection Rs 0.8 million
- Machinery 4 gins+ baling press Rs 1.5 million
- Machinery Erection Rs 0.2 million
- Buildings Rs 1.5 million
- Total Rs 6 million
- Working capital Rs 25.18 mill per season

The above information shows the different expenditure heads, which are a requirement to establish and run a gin factory based on four gins and a bale pressing unit. The capital cost is Rs 6 million, but the working capital requirement is Rs 25.18 million per 100-day season. It is assumed that the gin will operate for ten hours a day and will gin 8 bales per hour (4 gin stand). Electricity consumption will be 24 KWH per bale priced at Rs. 8 per KWH. Phutti required to produce one bale of lint is 515 Kg (GOT 33%). Phutti rate has been assumed to be Rs 725/md the government announced base price. The working capital requirement has

been calculated assuming the gin has a level production over the season and needs working capital for a 30 day credit cycle. In the peak season ginners have a severe liquidity squeeze that banks can assuage through provision of liberal credit.

Table 3: Ginning Costs

Ginning Cost	Rs/ bale	4 Gin Stands	6 Gin Stands
Capacity (bales / season)		8,300	12,480
Variable Costs		Rs.	Rs.
Phutti Cost	9,337	77,498,106.06	116,527,272.73
Baling hoops	77.14	640,262.00	962,707.20
Hessian Cloth	51.04	423,632.00	636,979.20
Electricity (up to 10 thousand bales / season)	191.76	1,591,608.00	
Electricity (up to 15 thousand bales / season)	155.81		1,944,446.40
Labour	200.00	1,660,000.00	2,496,000.00
Brokerage	25.00	207,500.00	312,000.00
Bardana	57.51	477,333.00	717,724.80
Cotton fee	56.00	464,800.00	698,880.00
Market fee	3.50	29,050.00	43,680.00
Insurance	11.00	91,300.00	137,280.00
Twine	10.90	90,470.00	136,032.00
Withholding tax	90.00	747,000.00	1,123,200.00
Lubricants	17.46	144,918.00	217,900.80
Total Variable Cost	10,266.78	83,921,061.06	125,736,202.33
Fixed Costs			
Depreciation	20.00	166,000.00	249,600.00
Machine maintenance	39.92	331,336.00	498,201.60
Clerical & mechanical staff	213.35	1,770,805.00	2,662,608.00
Tel. Stationary, Postage	33.81	280,623.00	421,948.80
Gratuity	4.68	38,844.00	58,406.40
Education Cess	1.11	9,213.00	13,852.80
Social sec & Old age benefit	19.22	159,526.00	239,865.60
Group Insurance	1.00	8,300.00	12,480.00
Overhead	69.72	578,676.00	870,105.60
Property Tax	2.00	16,600.00	24,960.00
Total Fixed Cost	404.81	3,359,923.00	5,052,028.80
Total Cost/season	10,671.59	87,280,984	130,788,231
Total Revenue/season		89,512,504	134,592,295
Financial cost of working capital (18% p.a.)			
Working capital requirement		25,176,318	37,720,861
Cost of working capital		1,241,572	1,860,207
Profit before tax/season		989,948	1,943,857

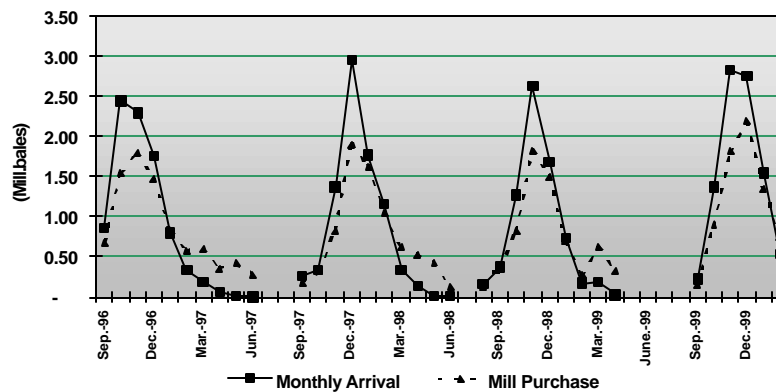
2.4.1.1.2. Ginning Unit set up cost year 2000 (option B)

- Land 5 acres required by law @Rs 4 million/acre = 2 million
- Electric connection Rs 0.8 million

- Machinery 6 gins+ baling press Rs 2.3 million
- Machinery Erection Rs 0.3 million
- Buildings Rs 1.8 million
- Total Rs 7.2 million

A six saw gin unit with a baling press which can be set up with an investment of Rs 7.2 million and it needs a Rs 37.72 million working capital for a typical ginning season. Rs 37.72 millions arrangement for an ordinary gin factory owner can be a burden. Ginners would be interested in warehousing companies who operate commercially to store and carry commodities including cotton lint. These warehousing enterprises would ease ginners liquidity problems. The following figure depicts the lag between inflows and outflows of cotton lint during the peak harvesting months. Large inventories over long periods reduce ginners' profit margins substantially because of high credit costs, besides constricting their cash rotation cycles that reduce their annual ginning capacities.

Figure 2.4.1 Comparison of Monthly Arrival vs Mill Purchase



2.4.1.1.3. Power Consumption & Potential to reduce the bill

The average electric power consumption per ton in Pakistan is 141 kwh compared to modern gins of similar capacity where it is 100 kwh. Due to fixed charges and seasonal rates on ginning units, the cost is Rs. 8/kwh for 10,000 bales. This is reduced to Rs. 6-6.5/kwh for 15,000 to 20,000 bales. In terms of power conservation 6.97 kwh/bale can be realised. For 10,000 bales this would translate into 69,700 kwh, saving Rs. 557,600 for the season. This can be achieved by making small incremental improvements in the existing technology and improve the settings of the machines.

An analysis was carried out by a senior Ginning Engineer of CFDT a French company for the improvement of Cotton Ginning Technology. The engineer came to Pakistan in the month of July on the invitation of SMEDA. CFDT has shown keen interest in providing its services to the ginning industry of Pakistan. It was explained that power consumption basically depends on the following factors:

- a. Size of blower fans
- b. Rpm adjustment of electric motors
- c. Design of the piping system

He also emphasised the introduction of seed tube (described earlier) in the gin stand to improve power consumption.

Table 2.4.1: Present and future possible power consumption at a gin factory (per hour)

Sub-process	Present power consumption (kwh)	Future possible power consumption (kwh)	Savings in power consumption*
Suction of seed cotton	74.50	37.25	37.25

Delivery (Screw Conveyor)	55.88	37.25	18.63
Condenser	7.45	2.23	5.22
Separator	7.45	7.45	0
Opener	14.90	11.18	3.72
Saw Gins 4 Nos, Option-A (4)	89.40	74.50	14.90
Saw Gins 6 Nos, Option-B (6)	134.10	111.72	22.38
Pre-pressing of bale	11.78	3.72	8.06
Bale press	29.80	14.90	14.90
Misc.	11.18	7.45	3.73
Total-Option-A	302.34	195.93	106.41
Total-Option-B	347.04	233.15	113.89
Savings @ Rs 6.5/kwh			A-Rs. 691.67 B-Rs. 740.29

The above chart shows that if a technical study of electric power usage by Pakistani-made saw gins (which are a copy version of US made Continental saw gins of the early 1950's) is conducted, we can identify and achieve electric power conservation.

2.5. Issues Of Pakistan Cotton Ginning Industry

Pakistan is a developing country with peculiar issues and problems faced by its ginning industry. Cotton is entirely hand picked and the use of gin process monitoring and controls is not there. The machinery being used is locally made and is a copy of the Continental Technology Company's machines from the generation of the middle of 1950's. Hence the efficiency and productivity of the process is one-fifth of that of machines currently being used in the US.

Ginning Industry has an installed over capacity of more than one million bales on a single shift basis and a total capacity of around 20 million bales on three shift basis, part of which lies unutilised.

2.5.1. Ginning Research Institute

Standardisation is lacking in the ginning sector. This can only be achieved by setting up a ginning research institute to work on improving the technological know-how and to set standards for managing a unit effectively. It would advise the units on how to improve their efficiency and play a crucial role in improving the quality of ginned cotton. A Ginning Institute has been a long-standing demand of PCGA. The industry is being run by second-generation *mistris* who have learned the tricks of the trade with experience. The ginner has no other source to access technology. The institute can impart knowledge to the ginners and also help in training technicians. Following are some of the areas where this institute, set-up at Multan can play an effective role:

- a. Advise the Government in designing the Ginning standards, including physical and technology standards.
- b. Carry out optimum operational efficiency studies and demonstrations to the industry.
- c. Study varietal characteristics trash and moisture content affecting the quality of ginning.
- d. Study the effect of cotton picking, handling, transportation and storing method on the quality of ginned cotton.
- e. Study ginning machinery component design, material used, performance and life to develop their specification.
- f. Study actual power requirements of different machines to select the most appropriate power source to minimise the power/energy requirement.
- g. Study and establish appropriate moisture content for ginning of different cotton varieties.
- h. Study and analysis of economics of ginning operation.
- i. Training of technicians.



2.5.2. Other Issues

- There is no grading/classification of cotton coming to ginning factories. This must be done to obtain regular and uniform quality lint cotton.
- The following practices seem to contribute to issues faced by our cotton ginning Industry:
 - Use of worn out saws of reduced diameter and varying tooth angles result in low efficiency, high neps and floating fibre.
 - Improper storage & transportation of seed cotton cause increased risk of contamination, a serious issue.
 - Mixing of different varieties of cotton for ginning.
- Seed cotton is not stored according to fibre grades in covered stores or handled in containers to avoid exposure to weather.
- No separation of yellow cotton bolls before ginning.
- Apart from sunshine drying there is no arrangement for artificial drying. Artificial drying is necessary to preserve fibre properties and to improve its grade.
- Gin owners do not employ maintenance engineers and gin fitters.
- Gin owners are not investing to modernise and upgrade their facilities. The concept of developing efficiencies through adoption of in-process measuring and analysing techniques is missing.
- Ginned cotton should be properly packed with cotton cloth covering the sides of the bale and bound with new baling hoops to avoid splitting open before production.
- Bales are of non-standard weights and sizes. Also there is no adherence to universally recognised uniform density standards.

Bales are not marked by quality grades. Only the variety of cotton used is marked, which is not sufficient.

2.6. International Scenario

2.6.1. Focus on advancing gin technologies - World-wide

There is a need to advance and improve efficiency of ginning by increasing capacity and reducing energy, maintenance, labour cost, while improving fibre quality. All of the above factors ultimately mean higher profits to the gin owner and better quality lint cotton for the spinning mills.

Moisture control in lint is a crucial factor of quality and efficiency of ginning. Excess moisture in seed cotton causes seed breakage and higher power requirements. Low moisture in lint after ginning and before pressing causes fibre damage and increases fire hazards. Accurate moisture levels increase efficiency of the press. Therefore a real-time accurate moisture sensing system is required to guide the drying and the moisture adding devices attached to the ginning process. Moisture monitoring systems are not complex or expensive; they are modular and can be attached to existing ginning equipment in matter of hours.

In the middle of 1980's the Model 161 Saw Gin was introduced that had a capacity of 15 plus bales per hour, (3,375 Kg/hr). In this the Seed Tube, which allows up to 50% of the ginned seed to be removed through the centre of the seed roll, was incorporated. This reduces pressure and therefore seed and fibre damage is held to a minimum. This is said to be the single most important innovation in ginning technology in over 50 years.

The 15 bale per hour capacity Extractor Feeder was also added to compliment this Model 161 Saw Gin. This feeder has a considerably more cleaning, opening and lock separation capability than any other feeder. Similarly lint cleaner was developed specifically to receive the lint from a Model 161 Saw Gin at over 15 bales per hour.

Presently cotton gin facilities to operate at 60 bales per hour (1200 bales per day) or more with high levels of electronic sophistication are being developed in the USA. But many of the cotton growing countries of the world are still using gin plants operating at 10 to 12 bales per hour or even less including Pakistan.



Many of the developing countries have upgraded ginning technology rapidly. Increasing land area and new irrigation projects in some developing countries are inevitably forcing the increase of mechanisation where traditionally cotton was handpicked. Mechanised picking of seed cotton necessitates improved drying and pre-cleaning of the seed cotton. In some cases upgrading of older systems with more modern technology is possible but often a completely new system with latest technology is the best economic option.

2.6.2. Value of Cotton Gin Process Monitoring and Control to the Textile Industry

Traditional ways of conducting business are constantly being re-thought to improve the goods and services provided to customers. Progressive growers, mill buyers and merchants/shippers are discovering new ways to a partnership. An important technology to assist in these new relationships is the monitoring and controlling of fibre qualities on processing line at the cotton gin. Mill buyers are continuously searching for improved consistency of fibre measurements. The ability to measure critical fibre properties on line, provides added value for producer, merchant and spinning mill buyer. Even specific bale mixes can be shipped directly to the spinning mill based on quality specifications. It is critical for the grower and the spinning mill that shipments are timely. Spinning mills are constantly looking for cotton with low levels of neps and short fibre content. This reduces processing requirements at the spinning mill and further improves yarn and fabric quality.

The international textile industry is facing increased consumer demand for higher quality products at good value for money. The reduction of trade barriers has created new markets for spinning mills outside of their traditional business partners. Spinning mills in the US are returning to old-fashioned values of partnerships with their suppliers and customers. This concept called "breaking paradigms" focuses on improving your business by looking at it in a different way. Breaking paradigms opens opportunities to create win-win situations for buyer and vendor.

2.6.3. Challenges Faced by the Textile Industry

Increased globalisation and reduction of trade barriers have brought additional competition from Asian, South and Central American spinning mills, which have purchased the latest spinning technology. Continuously tighter quality standards are placed on cotton buyers and sellers. Increased pressure for a consistent cotton raw material usage in the spinning mills is apparent. With increased automation, fewer personnel are managing the textile process through deployment of "smart systems" that are easy to monitor. There is a strong trend to make the fibre procurement and processing a simpler process. Following are the major challenges faced by the textile industry in advanced textile processing nations:

- Increased price competition from Asia and Mexico
- Fibre costs are 50% to 70% of yarn production costs
- Increased need for consistent cotton fibre raw material
- Purchase of foreign grown cotton as a necessary measure
- Trend to increase textile automation, maintain competitiveness from Asia and Mexico
- Trend to make fibre business simpler.

2.6.3.1. Specific Challenges Relative to Fibre Characteristics

World wide the textile industry is faced with three key challenges relative to fibre characteristics.

- The visual appearance of a yarn or fabric is always a major concern.
- Textile machinery purchase is a capital investment involving millions of dollars worth of technology. In order to amortise the equipment over a period of time, the equipment must operate at the highest possible efficiency.
- The delivery of cotton fibre raw material to the spinning mill and planned yarn inventories for textile mills is crucial to management efficiency. 'Just in time' inventory management system is being adopted by the progressive textile mills. Yarn counts according to customers' requirements are produced in adequate quantities and on time, while inventories are kept to a minimum. The concept of "just in time" production is the key to the success of all yarn producers. In Pakistan the spinning sector is quite primitive and is having to bear very high raw material carrying costs to avoid fluctuating cotton prices and stock-outs.



2.6.4. Cotton Ginning Industry Trends in the United States

The five-year average annual cotton production in the USA has increased by 59% in the last decade while the number of active gins has decreased by 30%, causing a 161% increase in average annual ginning volume. The extra volume produced has allowed cotton gins to reduce their operating costs, and competition has forced a decrease in average ginning charge paid per bale by producers.

Pakistani ginneries will have to increase productivity through adoption of better technology and management practices. Gin owners will need to be better trained to meet these demands.

2.6.5. The Ginning Process

2.6.5.1. Stage I: Seed Cotton Conditioning and Cleaning:

Seed cotton - seeds with fibre still attached- usually arrives at the gin in large trailers or modules used for hauling it from the field and for storing it until ready for ginning. From the storage area, conveyor pipes transfer it to the various stages of the ginning process using large volumes of air to make the flow of the cotton easier and faster.

Typically, seed cotton is first dried in large dryers using heated air to reduce its moisture content. A cylinder cleaner then removes the leaves and other small trash from the seed cotton by shaking it with spiked cylinders, while conveying it across a screen with small openings that sift the trash released from the seed cotton by the impact action of the cylinders.

Next, a stick machine removes any large sticks or hulls (the dried bolls that form a shell around cotton as it grows) with revolving channel saws. These saws grab the seed cotton and whip it over metal bars to sling off its trash. If the seed cotton requires additional drying and cleaning, gins will often repeat the process.

Mechanical harvesters made seed cotton drying and cleaning necessary. Although much faster than hand harvesting, mechanical harvesters also pick more trash with the cotton, which usually contains a high amount of moisture. Trash, as well as moisture, can adversely affect the quality of the fibre and lead to costly operating and processing expenses at the gin and at the textile mill.

Excess moisture is common to cotton grown in the more humid regions of the Cotton Belt, while cottons produced in the Southwest can be too dry because of the region's arid climate. Lack of moisture at ginning can also lower the quality of the fibre and contribute to ginning problems. To prevent fibre damage and to facilitate ginning, gins try to balance the moisture content in the seed cotton during drying, so that it is neither too wet nor too dry. With unusually dry cottons, gins will skip the drying stage and will, at times, add moisture to it with a special humidifier that blows warm, humid air through the gin's conveyor pipes.

2.6.5.2. Stage II: Ginning the Seed Cotton.

The seed cotton is now ready for ginning. Pima cotton is conveyed to the roller gin, while upland cottons are conveyed to the saw gin for separation of seed and fibre.

2.6.5.3. Stage III: Lint Cleaning.

Lint cleaners remove the small trash from the ginned lint left behind by the cylinder cleaner and stick machines. Saw-lint cleaners grab the lint with a cylinder saw and whip it over metal bars to dislodge its trash. Lint cleaning of roller ginned cotton usually involves a combination of three machines: a cylinder cleaner, an impact cleaner which uses cylinders to agitate and release the trash from the lint, and an air-jet cleaner which removes the trash from the lint using high velocity air.

2.6.5.4. Stage IV: Packaging the Lint.

In the final stage, a bale press compresses the ginned lint into bales that weigh between 450 and 500 pounds. The bales are then wrapped with a protective covering, ready for delivery to the warehouse where they are sold to the various textile mills.



2.6.6. Consolidation Phenomena in the US

The cotton ginning industry has been consolidating at a rapid pace since middle of 1980's. Small gins are going out of business or investing in increasing capacity to become cost competitive. In 1968 4,210 gins operated in USA, by 1988 1,645 gins processed a four million bale larger crop as compared to before. 2,565 gins (61%) closed down in 20 years leaving 1,157 active gins in 1996. The five-year USA's average annual production increased from 11.5 million bales in 1968 to about 17 million in 1994. In the same period, the annual average volume per gin has increased from 2,572 bales to about 14,800 bales.

2.6.7. Handling Seed Cotton in the form of Modules

The module system of handling and storing seed cotton has influenced ginning more than any other development in several decades. First introduced in 1972, the system was used on about 78% of the 1994 cotton crop in the USA. 85% of the crop is likely to be handled as modules in developed cotton producing countries today. This practise is yet to be adopted in Pakistan.

Figure 2.6.1: Loading of Modules

Figure 2.6.2: Seed Cotton Modules at a Gin



2.6.8. Cottonseed Storage at Gins

Another new trend is long-term cottonseed storage at gins in developed cotton producing countries. Many well managed gins in those countries have the capacity to store a significant percentage of their annual cottonseed volume. The continued development of the market for whole cottonseed is the basic reason for seed storage at gins, even though some gins store seed for crushing. The percentage of cottonseed which is fed directly to livestock in the USA has increased from about 13% in 1979 to an estimated 45% in 1995.

2.6.9. Gin Ownership

Gins are commonly owned by Corporations, partnerships, individuals, families, co-operatives and other more complicated arrangements in the advanced cotton producing countries. Some corporations which operate several publicly owned gins in one or more cotton producing regions is a common phenomena. Often the availability of financing influences the organisational structure. There is a trend toward cotton producers participating in gin ownership, whether by co-operative arrangement or producer-owned corporations.

Figure 2.6.1: Seed Cotton Handling

2.6.10. Bale Warehousing at Gins

Gins own more bale warehouses than ever before and seem to be profitable. The gin industry may not need more storage space because in this decade cotton crop the world over has been constant in volume and with low demand, the gin owned warehouses are better utilised in the advanced cotton producing countries.

Figure 2.6.1: Cotton Bale Warehousing

2.6.11. Machinery in the Ginning System

Gin cleaning is a compromise between reduced trash content and fibre quality. Lint cleaners are much more effective in reducing the lint trash content than seed cotton cleaners, but lint cleaners can also damage fibre quality and reduce bale weight (turnout) by discarding some good fibre with the waste. Some textile manufacturers are experimenting with contracts specifying the gin machinery. As the solid research data accumulated over several decades in the USA indicates, at least one saw type lint cleaning is needed to blend and comb the fibres, as well as to extract significant volumes of foreign matter.

Figure 2.6.1: High Capacity Gin Stand

A question arising in the advanced cotton producing countries, is that should gins install more seed cotton cleaners to replace lint cleaners? The answer is no. The traditionally recommended seed cotton-cleaning

package is adequate. Too much seed cotton cleaning can cause the cotton to be ropy, causing preparation reductions, not feed well through the gin stand, and increase neps in the fibre. Gin owners in USA are advised to stay with the current ginning system until the cotton market sends a clear signal that the textile industry is serious about wanting gently ginned cotton. Second stage lint cleaners need to be equipped with by-pass valves so the gin can be run with single stage lint cleaning.

Figure 2.6.2: High Performance Gin Stands



The most active change in machinery in the ginning system is the addition of module feeders and seed evacuators. Reports consistently indicate that module feeders improve the average ginning rate and reduce labour costs.

Figure 2.6.3: Ginning Unit



2.6.12. Comparison in Practices between an Average Pakistani vs USA based gin factory

The table below shows that the process control practices in the USA's cotton gin factories are quite advanced compared to Pakistan. This is significant since USA is our competitor in the global cotton trade and sets the standards for cotton lint.

Table 2.6.1: Comparison between Pakistani vs USA based gin factory

No. of bales processed/hr	Pakistan	USA	
Saw Gins 4 Nos.	8.3	20	American Cotton Bale is weighed at 218 kgs/ bale but here it has been converted to a Pakistani 170 kgs bale.
Lint cleaner used?	No	Yes	
Use of cotton fibre grading standards?	No	Yes	

Bales stored in a shed	No	Yes	
Ginning process control equipment installed	No	Yes	Intelligen Process
Pre-calculation of bale cost	No	Yes	Through on Line computers
Contamination	Yes	No	
Trash content in lint bale	9%	4%	

2.7. Current Situation

In Pakistan cotton processing industry has catered to low quality products — lint, yarn and fabric, over the past few decades. Changing global demands and textile market profiles are demanding a shift to quality products. In this the ginning factory plays a pivotal role for determining quality of cotton fibre as raw material for downstream industry. Yet this component of local textile industry is the most neglected and antiquated. Unless upgradation of this industry is undertaken on emergency levels, it would not be possible to remain competitive in export markets.

While two major steps have already been taken: One, establishment of cotton standards through PCSI and two, setting up of a Ginning Institute, these administrative measures need to be braced with physical resources to materialise their objectives.

SMEDA has already sponsored the visit of Mr. Alan Pirot, a ginning expert from CFDT, France to tour the ginning factories of southern Punjab and manufacturing facilities in Lahore and Karachi. He would be submitting a proposal to SMEDA for a technology transfer package whereby existing saw-gins can be modified to incorporate substantial savings in power, increased output and improved lint quality. MINFAL, Ministry of Industries and Production and CCRI need to co-operate in utilising the technical expertise of CFDT.

2.8. Sectoral Interventions in Cotton-Related Regulation

2.8.1. Import Tariff

The trade of cotton lint should be allowed freely. Zero duty should be imposed on import of cotton lint. This will have long term effects in terms of availability of quality cotton to the industry for value addition.

Responsibility CBR

2.8.2. Export Quota/ Import Export policy

There should be no quota limitation on export of lint cotton. The certified cotton with quality standards should be exported to earn premium price in the international market. This will ensure continuous presence of Pakistani cotton in the international market and will create better linkage between the buyer and the cotton exporter. Better linkage with the international cotton markets will build better image of Pakistani cotton. Regular export of cotton is also helpful in stabilising the cotton prices in the local markets and also enables the farmer to get better prices.

Responsibility EPB/KCA

2.8.3. Exemption of Sales Tax on Lint & Oil Cakes

Sales tax should be exempted on sale of cotton lint and oil cakes. Sales tax should be levied on spinning onwards. Sales tax on cotton has encouraged gross miss reporting of ginned cotton, which causes instability in the lint prices.

Responsibility CBR

2.8.4. Exemption of Duty on ULV spraying equipment.

Customs duty on import of ULV spraying equipment should be removed to encourage use of efficient spraying equipment.

Responsibility CBR

2.9. Sectoral Interventions in Cotton Marketing

2.9.1. Procurement by TCP

Cotton produce comes in bulk during two to three months of the year. Textile mills are not able to purchase all the cotton during this period. As there is no alternate buyer available in the market, the price of cotton goes down. It is recommended that Trading Corporation of Pakistan (TCP) should act as price stabilising agency/third buyer from the very beginning of cotton season. TCP should purchase cotton lint at export parity price and should act as a market maker.

Responsibility MoC/TCP

2.9.2. Support Price

The government should announce minimum price for seed cotton and cotton lint before the start of cotton season. TCP should buy lint in case price of Phutti sinks below subsistence level price.



Responsibility MINFAL/MoC/TCP

2.9.3. Resume Hedge Marketing

Hedge markets should be revived for stabilising cotton prices. Govt. should form a committee, comprised of stakeholders, to examine the viability of hedge marketing & safeguards needed to prevent negative aspects. It should also review bylaws of Karachi Cotton Association.

Responsibility MINFAL/MoC/KCA

2.9.4. Improve Standing in Cotton Export Trade

In 1974 due to high cotton prices in the country local exporters refused to honour their export deals and cotton trade was nationalised. Fiscal measures in Pakistan need to be introduced to penalise cotton exporters who do not honour cotton export deals with foreign buyers. This measure will lead to a better standing of Pakistan in the international cotton market.

Responsibility KCA/TCP/CEC

2.9.5. Membership of CICCA

KCA should become a member of Committee for International Co-operation between Cotton Associations (CICCA). This is critical if Pakistan is to become a regular export player.

Responsibility KCA/MoC

2.9.6. Pricing Criterion

Cotton prices should be based on the standards and not on varieties.

Responsibility KCA/PCSI

2.9.7. Daily Price Quotes

KCA should make arrangements to announce price of Phutti derived from lint grades on television on a daily basis. This practise will benefit both the buyers and sellers.

Responsibility KCA/PCSI

2.9.8. Formation of Warehouse Companies

Formation of Warehouse Companies in public and private sector joint venture should be encouraged. Such companies will help to build, maintain and release a buffer-stock according to the requirements. This will reduce cotton-carrying cost of spinning mills.

Responsibility SBP/MoC/APTMA



2.10. Sectoral Interventions in Cotton Production

2.10.1. Cotton Breeding Program

Cotton breeding program should be activated to produce new varieties with high yield and better characteristics as earlier as possible. The potential of hybrid varieties needs to be researched. Private breeders and Multi-Nationals may be encouraged to cotton seed production and varietal introduction.

Responsibility PCCC/CCRI

2.10.2. Variety Approval

Variety approval criteria should focus at a minimum staple length of 28 mm and Ginning-out-turn (GOT) of 38%. The procedure for approval should be simplified and made expeditious.

Responsibility CCRI/ Federal Seed Registration Department/ Provincial Seed Councils

2.10.3. Private Sector Cottonseed Companies

Private sector cottonseed production should be encouraged. They should be allowed to import and develop cottonseed varieties, however the breeder should get certification from government. Procedure for seed registration needs to be reviewed to register private seed producers. Supply of certified seed to the cotton growers should be made on time. Along with the provincial seed corporations, private sector seed companies should be encouraged to do seed business.

Responsibility MINFAL/ Federal Seed Registration Department/ Seed Corporation

2.10.4. Increasing Cotton Acreage

Cotton acreage can be further increased by bringing new area under cultivation in NWFP (D.I. Khan along the Chashma Right Bank Canal) and Baluchistan (Nasirabad & Uthal).

Responsibility MINFAL/Provincial Agri Extension Department

2.10.5. Agronomic Practices

Better agronomic practices should be adopted to increase the germination percentage, proper plant population, plant to plant distance and efficient utilisation of irrigation water and other inputs. Furrow plantation technique should be encouraged which has shown better results in yield enhancement both in Sindh and Punjab province. Agriculture extension department should play its vital role in educating farmers about furrow plantation. Sprinkler Irrigation systems should be developed locally with joint ventures and introduced in arid zones.

Responsibility CCRI/Provincial Agri Extension Department

2.10.6. Standardisation of Machinery

Standardisation of farm machinery (used for cotton plantation, spraying, etc) can play important role in increasing cotton production per acre. Farm machinery rental companies equipped with modern machinery should be encouraged.

Responsibility AMRI /CCRI/PARC/Provincial Agriculture Depts.



2.10.7. Integrated Pest Management

Integrated pest management (IPM) techniques should be encouraged instead of indiscriminate use of pesticides. Pesticide spray should only be restricted to the time when pest causes economic loss.

Responsibility CCRI/MINFAL/Provincial Agri Department

2.10.8. Picking Time

Cotton picking in the morning results in high moisture content. Picking should start after 10 AM in the morning to minimise moisture level.

Responsibility MINFAL/Provincial Agri Extension Department

2.10.9. Grading of Phutti

Proper grading of Phutti can reduce contamination. Paying premium price to the farmer for clean cotton will encourage minimising contamination in picked cotton.

Responsibility PCSI /MINFAL

2.10.10. Cotton Standardisation Act

Phutti and lint cotton grading standards of Pakistan Cotton Standards Institute (PCSI) should be implemented for seed cotton and cotton lint. Grades specified by PCSI for Phutti and Lint cotton need to be executed and price should be based on quality grades. Implementation of these grades should be made compulsory at each level. This will improve the marketing mechanism.

Responsibility Provincial Governments

2.10.11. Review of Crop Estimation Method

Crop estimation method needs to be brought in line with requirements of the market, which demands accuracy reported as early as possible on a regular basis. Independent crop estimation agency should take care of this issue.

Responsibility CCRI/MINFAL/Provincial Agriculture Department

2.10.12. Increase in Cotton Cess

Cotton cess should be increased to an extent that enough funds are available to promote cotton research activities.

Responsibility CCRI/MINFAL/APTMA

2.10.13. Crop Insurance

Crop insurance should be introduced for protecting farmers against natural calamities.

Responsibility MINFAL/MoC/SBP



2.11. Sectoral Interventions in Ginning

2.11.1. Ginning Research Institute

Ginning Research Institute needs to be set-up, preferably at Multan, to provide an institutional support to the ginning industry in Pakistan. The proposed Ginning Research Institute (GRI) is supposed to take following responsibilities.

- j. Advise the Government in designing the ginning standards, including physical and technology standards
- k. Carry out optimum operational efficiency studies and demonstrate these to the industry. For example, a *study on ideal electricity consumption in Pak-made saw gins versus imported saw gins* of the same generation should be carried out. It is believed that it will decrease electric power consumption by possibly 30% thus leading to a significant drop in ginning costs
- l. Study of varietal characteristics, trash and moisture content affecting quality of ginning
- m. Effect of cotton picking, handling, transportation and storing methods on quality of ginned cotton
- n. Promote custom ginning that will be helpful for improving quality of cotton. If growers practice custom ginning then they can get direct benefit of clean picking
- o. Study of ginning machinery component design, material used, performance and life to develop their specification
- p. Study of actual power requirement of different machines to select the most appropriate power source to minimise the power/energy requirement
- q. Study to establish appropriate moisture content for ginning of different cotton varieties
- r. Study and analysis of economics of ginning operation
- s. Conduct training of technicians.

Responsibility MINFAL/Min. of Industries

2.11.2. Setting of Ginning Standards

Different ginning mills have their own standards, effecting the overall uniformity of cotton lint produced. Therefore, there is a need to clearly define and effectively enforce ginning standards. It will improve the product quality for both the domestic and export markets.

Responsibility PCSI/ MINFAL

2.11.3. Standardisation of Weights and Measures

Weights & measures for seed cotton, cotton lint, cottonseeds, cottonseed oil, oil seed cake vary considerably. For example, maund of seed cotton is 40kg while that of lint cotton is 37.3kg and in case of oil seed cake, it fluctuates in each district. These weights and measures need to be standardised throughout the country. It will improve the data collection & taxation measures. It is also recommended that ginning mills must have weigh-bridges.

Responsibility Provincial Agriculture Department

2.11.4. Standardisation of Trash Content

Presently, trash content is set at 8% but is actually practised by ginners at 9%. The trash content in imported bales is 4%. It is recommended that trash content in a lint bale be standardised to a certain improved (lower) percent.

Responsibility MINFAL/PCSI/APTMA



2.11.5. Financial Support

Ginners should have access to credit at preferential rates during 100-day ginning period in order to prevent ginneries from changing ownership due to financial losses.

Responsibility SBP

2.11.6. Elimination of Sales Tax

Sales tax should not be imposed at the ginning stage, as ginneries are already suffering from a liquidity crunch. It would help prompt payments to farmers and will also promote export of cotton lint.

Responsibility CBR

2.11.7. Premium Price for Quality Lint

Cotton exporters in the private sector need to be encouraged to pay premium for quality lint. It will make ginneries improve quality. On an international level, it will improve Pakistan's chances to get premium price for its cotton lint.

Responsibility TCP/APTMA/KCA

2.11.8. Encouraging Use of Lint Cleaners

The contamination in our local cotton is 8-9% that effects the quality of fibre while American/International cotton has 4% trash. Use of lint cleaners should be made mandatory.

Responsibility Provincial Agri Department/PCGA

2.11.9. Duty Reduction on Sawgin Blades

Ginners are not changing sawgin blades when required because of the higher cost. This leads to damage of fibre during ginning and there is a loss of about 50,000 bales per annum due to floating fibre phenomena. So it is recommended that customs duty on sawgin blades should be decreased from a present level of 35% to 10%.

Responsibility CBR

2.11.10. Installation of Intelligin Process

Intelligin process made by "Uster" helps in calculating the cost of lint cotton while it is being processed, improves quality of fibre tremendously over presently available gins, decreasing trash content & power consumption. Intelligin process should be experimentally installed in at least one ginnery with Govt & PCGA funds. It will take processed lint to the next better quality grade, save on cost, will bring Pakistani ginned cotton at par with USA processed lint cotton quality giving our ginners improved export margins.

Responsibility Provincial Agri Department/PCGA.



3. Spinning

3.1. Introduction

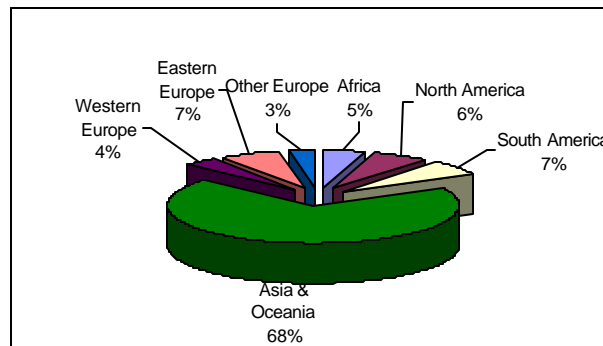
Spinning is the process of converting fibres into yarn. The fibres may be natural fibres such as cotton or manmade fibres such as polyester. Sometimes, term spinning is also used for production of manmade filament yarn (yarn that is not made from fibres). Whatsoever is the case, the final product of spinning is yarn.

Cotton value chain starts from Ginning that adds value to it by separating cotton from seed and impurities, but Spinning can be called as the first process the chain that adds value to cotton by converting into a new product i.e. conversion from ginned cotton into cotton yarn. The importance of spinning cannot be over-emphasised. Since spinning is in the beginning of value chain, so all the later value added processes of weaving, knitting, processing, garments and made-ups are dependent upon this process. If spinning industry produces sub-standard yarn, its effect goes right across the entire value chain.

3.2. Regional Distribution of Total Installed Spindles in the World

In 1996, total installed spindles in the world were 163 million. Regional distribution of these spindles is shown in Figure 3.2.1

Figure 3.2.1: Regional Distribution of Spindles



Asia had the highest number of installed spindles constituting more than two third of the total world's spindles. 11% share went to Europe and 13% to the American continents. Concentration of spindles in Asia is due to the larger size of the Asian continent and also due to the global trend of shifting production from the developed countries to the developing countries. The trend can be seen by looking at the similar figures in 1992 when the share of Asia was 65% only. At that time, Europe and Americas both had 15% share each. Africa's share remained unchanged at 5% during five years from 1992 to 1996. Within Europe, Eastern Europe had a larger share compared to that of Western Europe. This is due to the reason that most of the manufacturing facilities are concentrated in less developed countries. Developed countries are getting out of the manufacturing business.

3.3. Installed spindles in Asia-1996

Of the total 163 million spindles in the world, 113 million spindles are installed in Asia. Major Asian yarn producers along with their number of installed spindles and share in world and Asia are shown in Table 3.3.1.



Table 3.3.1: Installed Spindles in Asia

Country	Spindles '000'	Share in World	Share in Asia	Growth Rate (1992-96)
China	41,710	25.5%	38.6%	0.01%
India	31,835	19.5%	29.5%	3.16%
Pakistan	8,159	5.0%	7.6%	6.22%
Indonesia	7,050	4.3%	6.5%	4.59%
Turkey	4,544	2.8%	4.0%	2.8%
Japan	4,360	2.7%	4.0%	-11.00%
Thailand	4,100	2.5%	3.8%	1.94%
Taiwan	3,334	2.0%	3.1%	-2.34%
Korea	2,135	1.3%	2.0%	-10.07%
Iran	1,975	1.2%	1.8%	7.25%

Source: APTMA

China has the largest number of installed spindles in the world and accounts for 25% of the world and 39% of the Asia. There has been no change in China's spinning capacity during the period 1992-96. China is followed by India, which has 32 million spindles and contributes 20% to the world and 30% to Asian installed spindles. India has increased its spinning capacity at a growth rate of 3%.

Pakistan is the third largest player in Asia. Pakistan's spinning capacity is 5% of the total world and 7.6% of the capacity in Asia. Pakistan's growth rate has been 6.2% and is second only to Iran amongst the major players.

Of the countries listed in the Table, there are three countries, which have a negative rate of spindles growth. These countries are Japan, Korea and Taiwan. All the three are located in Far East. This trend indicates that these countries are decreasing their manufacturing activities. They have reached a stage of their growth, which demands, that they should get out of the production of low value-added yarns and produce only high value-added yarns.

Although, world's installed spinning capacity is concentrated in Asia, some non-Asian countries also claim fairly large number of installed spindles. These countries along with the number of spindles are shown in Table 3.3.2.

Table 3.3.2: Installed Spindles

Country	Spindles	Share in World
Brazil	7,300	4.5%
USA	4,914	3.0%
Russia	3,553	2.2%
Mexico	3,500	2.1%
Egypt	2,988	1.8%
Romania	2,000	1.2%
Italy	1,676	1.0%

Source: APTMA

In the world's top yarn producers, Brazil represents South American continent and has 4.5% share of the world's installed spindle capacity. It ranks third in the world. USA and Russia are the two other important countries in the business.

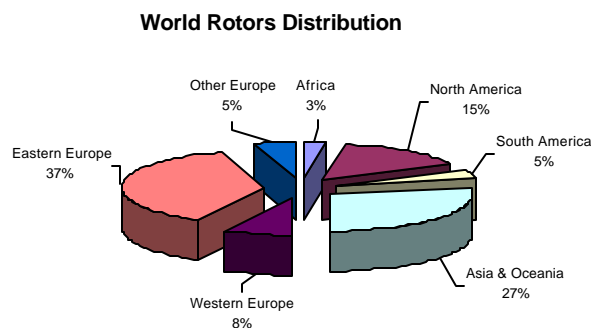
Brazil has higher number of spindles compared to that of Pakistan. That places Pakistan at fourth position in the world in terms of installed spindles. It is interesting to note that in the top seventeen countries shown in the two tables, there is only one country from Eastern Europe and one from the Western Europe.



3.4. Regional Distribution of Rotors

Regional distribution of rotors is shown in Figure 3.4.1. Unlike spindles, rotors' population is not

Figure 3.4.1: World Rotors Distribution



concentrated in Asia. Only 27% of the total number of rotors in the world is installed in Asia. 50% share is claimed by Europe. Of this, 37% is contributed by Eastern Europe. Since rotor technology is a relatively cheaper and older technology and is mostly used for production of low value-added yarns, so it is easier for these relatively less developed countries to produce such yarns. Although, top three Asian yarn producers also belong to the category of less developed countries, but their edge is the availability of abundant indigenous cotton, which is the main driver for higher investment in spindles than that in rotors.

Figure 3.4.2: Installed Rotors in Asia

	Rotors	Share in World	Share in Asia	Growth Rate (1992-96)
China	550,000	7.3%	26.1%	2.0%
Uzbekistan	222,800	2.9%	10.6%	-5.0%
India	194,500	2.6%	9.2%	14.4%
Taiwan	151,000	2.0%	7.2%	-0.3%
Pakistan	133,800	1.8%	6.3%	12.3%
Japan	101,000	1.3%	4.8%	-8.2%
Indonesia	78,000	1.0%	3.7%	4.8%
Thailand	70,000	0.9%	3.3%	8.9%
Iran	53,000	0.7%	2.5%	6.8%
Kazakhstan	50,000	0.7%	2.4%	-4.2%

Source: APTMA

Asian countries having major share of installed spindles is shown in Table Table 3.4.1. China is again number one with 550,000 rotors. This translates into 7.3% share in world and 26% share in Asia. Growth rate during the four years has been a modest 2%. Pakistan and India have the highest growth rates of 12.3% and 14.4%. Pakistan ranks fifth in Asia in terms of number of rotors. Japan has a negative growth rate (-8.2%). Two of the Central Asian States, Uzbekistan and Kazakhstan are also in the club of top countries but they have negative growth rates. Unstable economic and political environment in these countries during the period 1992-96 is the main reason for decrease in spinning capacity in these countries.



Table 3.4.1: Installed Rotors in the World

Country	Rotors	Share in World
Russia	1,766,000	23.3%
USA	968,000	12.8%
Turkey	349,800	4.6%
Ukraine	275,000	3.6%
Brazil	257,700	3.4%
Poland	150,000	2.0%
Czechoslovakia	139,100	1.8%
Italy	103,400	1.4%
Mexico	100,000	1.3%

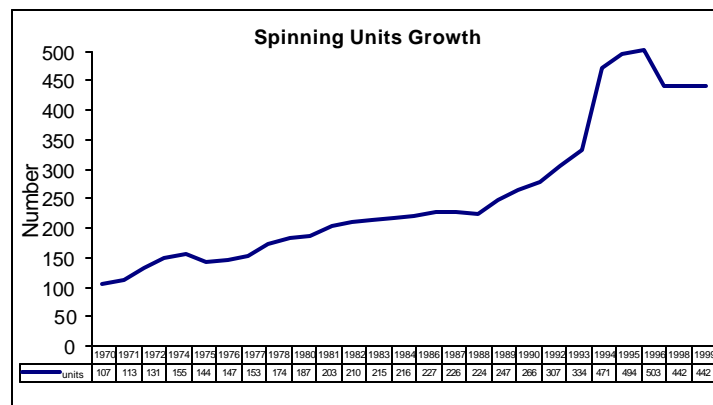
Source: APTMA

Largest rotors concentration is not in any Asian country. Russia has the largest number of installed rotors in the world accounting for almost one fourth of the total installed capacity. USA has about a million rotors which translates into 12.8% share. In 1996, Pakistan ranked twelfth in the world in terms of number of installed rotors.

3.5. Growth of Spinning Industry in Pakistan

Pakistan's spinning industry maintains a long history. At the time of independence, where many of the industries were non-existent in the country, spinning industry did exist. Total number of spindles in the country was 78,000. This number grew to 2.4 million till 1970. During this time, major growth took place during the period 1952-56.

Figure 3.5.1: Spinning Units Growth

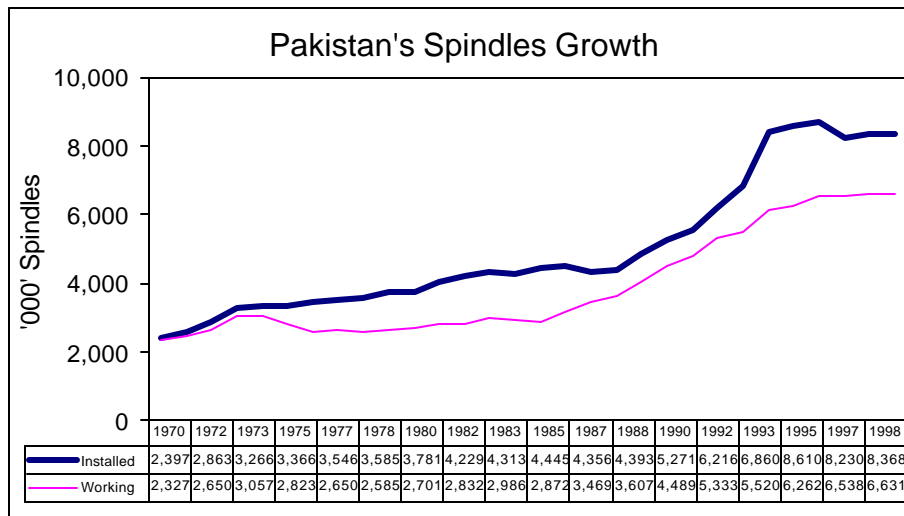


From 1970 onwards, the growth trend was steady. The growth of Pakistan's Spinning industry during the period 1970-99 is shown in Figure 3.5.2. Number of units has grown from 107 in 1970 to 442 in 1999. This represents an average growth rate of 5.3%. The growth was steady till 1993 after which a sharp increase can be seen with number of units growing from 334 to 471 during the period 1993-94. The increasing trend continued till 1996 followed by a sharp decline from 503 to 440.

Good cotton crops in the early nineties attracted the investors towards spinning business. But two consecutive crop failures in 1993 and 1994 created a shortage of cotton in the country resulting in an excess capacity build-up in the industry that led to closure of many units.

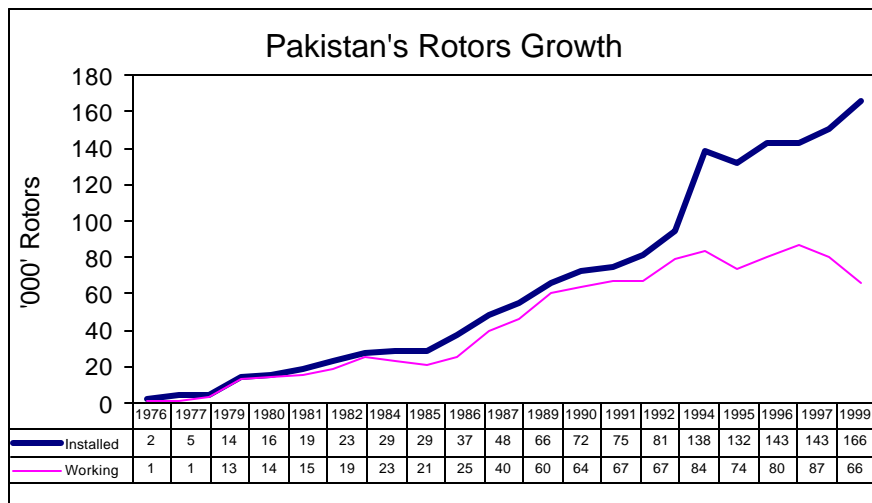


Figure 3.5.2: Pakistan’s Spindles Growth



Growth of spindles and rotors is shown in Figure 3.5.2 & Figure 3.5.3. Similar to the growth of number of units, there is a sharp increase in the number of spindles can be seen from 1993 to 1994 during which period the spindles have grown from 6.8 million to 8.4 million, increasing further to 8.7 million in 1996. In 1997, there is a decline in the number of spindles to 8.2 million. It is interesting to note that despite a decline in the number of installed spindles, there is no major change in the number of working spindles. It means that the industry responded to the excess capacity situation by closing down spinning units rather than letting the installed spindles remaining idle. In 1999, of the total installed spindles, 79% were working.

Figure 3.5.3: Pakistan’s Rotor Growth



Similar trend prevailed for rotors. The capacity increased from 95,000 to 138,000 rotors from 1993 to 1994. The working capacity did not take off at the same rate with the result that the gap between the installed and working capacities widened largely and this trend continued till 1999. Capacity utilisation for rotors in 1999 was 40%. It is very surprising that installed capacity of rotors showed a continuous increase form 1997 to 1999 while the number of working rotors continuously decreased.



3.6. Geographical Distribution of Spinning Units

Spinning units are concentrated in Punjab province. Distributions of units and spindles by province are shown in & Figure 3.6.2. Reason that most of the spinning units are located in Punjab is proximity to raw material sources.

Figure 3.6.1: Region Wise Break Up of Installed Spinning Units 1998-99

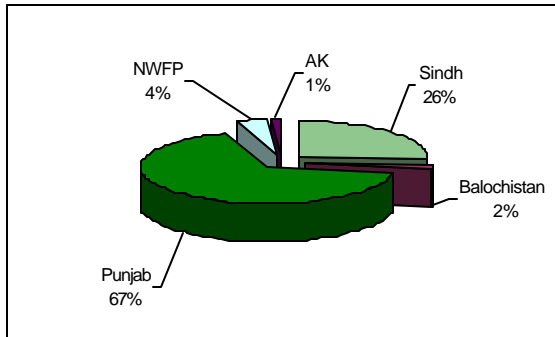
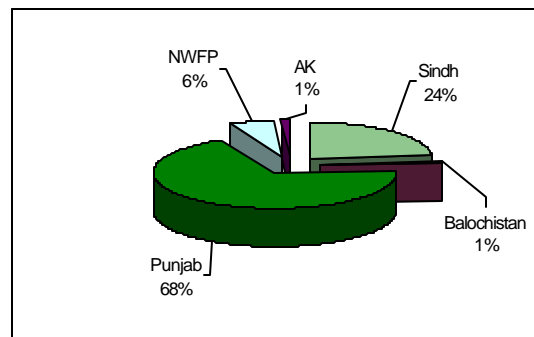


Figure 3.6.2: Region wise Break Up of Installed Spindles 1998-99

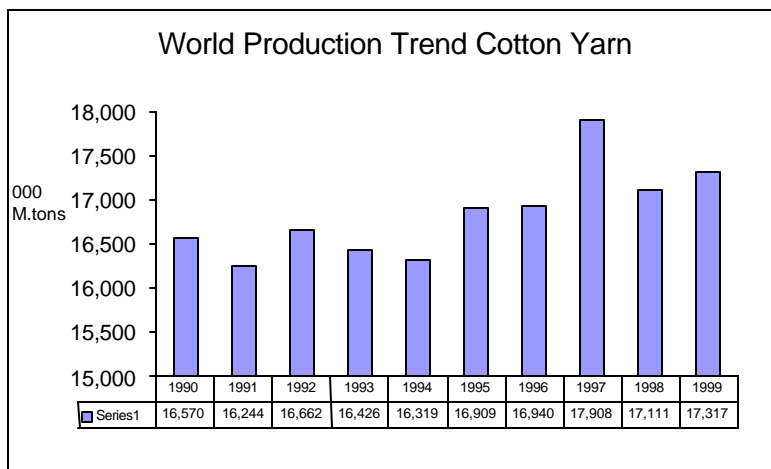


Punjab has 67% share in terms of number of units and 68% in terms of spindles. Sind has 26% share in units and 24% share of spindles. It indicates that average size of a unit in Punjab is larger compared to that in Sind.

3.7. Production of Cotton Yarn

World production of cotton yarn from 1990 to 1999 is shown in Figure 3.7.1.

Figure 3.7.1: World Production Trend Cotton Yarn



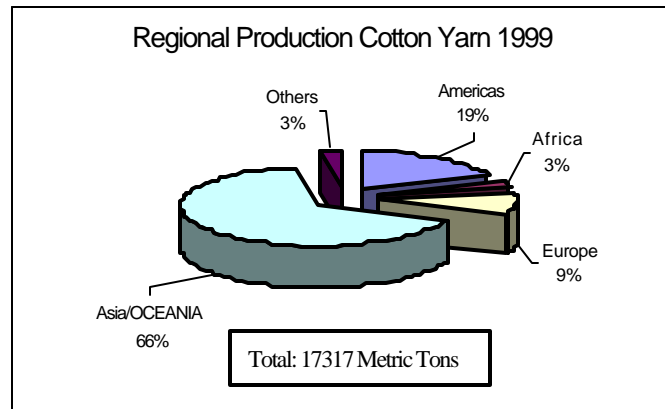
In 1999, total cotton yarn produced in the world was 17.3 billion metric tons. Although fluctuations can be seen in the trend but on an overall basis cotton yarn production has almost been stable in the last ten years. Average production during the ten years has been 16.8 billion metric tons. Average growth rate during these ten years has been 0.53%. The reason for this trend is that cotton production in the world is almost finite. There is no major change in area under cultivation for cotton. Changes in the cotton production stem mainly from improvement in yield per unit of area.



3.8. Region Wise Production Trends

Region-wise break-up of world cotton yarn production is shown in Figure 3.8.1 Asia is the largest producer of cotton yarn capturing 66% share of the total production. American continents claim another 19% share. More than half of the total production from American continents comes from USA alone. Africa and Europe are small players in the production of cotton yarn. Majority of the cotton yarn production from Africa is accounted by Egypt since Egypt is an important cotton producer.

Figure 3.8.1: Regional Production Cotton Yarn 1999

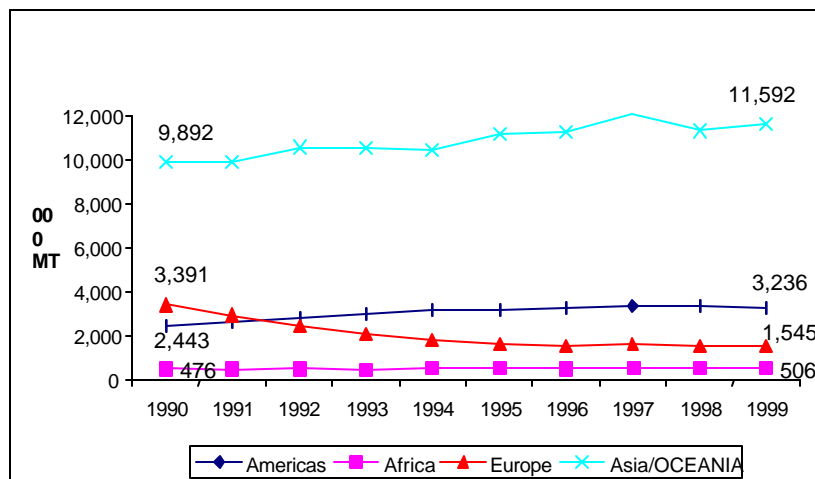


Production in Europe is decreasing while production in Asia, American continents and Africa is increasing. Europe is getting out of yarn production and other three regions are taking up the share. Compounded annual rate of decrease for Europe is 7.6% while average growth rates for Asia, Americas and Africa are 1.6%, 2.85% and 0.6% respectively. This is surprising to note that American region has the highest growth rate amongst all the regions. USA has taken major share of this growth. Average growth rate of USA has been 3.8% that is higher than the average growth rate of the total region.

3.9. Major Yarn Producing Countries

China, India, Pakistan and USA are the major producers of cotton yarn. Together, these four countries account for 63% of the total world's production. Relative market position and production trends from 1990 to 1999 are shown in Figure 3.9.1 & Figure 3.9.2.

Figure 3.9.1: Regional Production Trends Cotton Yarn

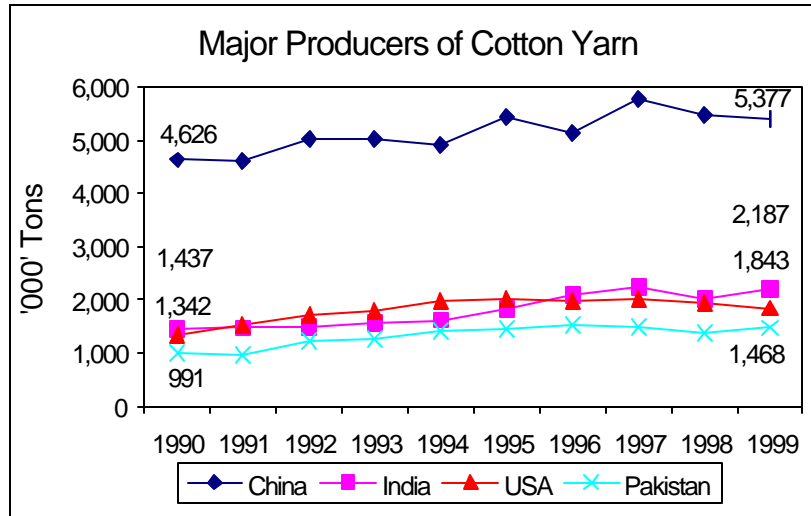


China is the largest yarn producer in the world and holds 31% share of the total world's production. China's production trend has been wavy in the ten years, but on an overall basis, curve is moving upwards.

Production increased from 4.6 million tons in 1990 to 5.3 million tons in 1999. Average growth rate of China during these ten years has been 1.9% that is higher than the average growth rate of total cotton yarn production in the world.

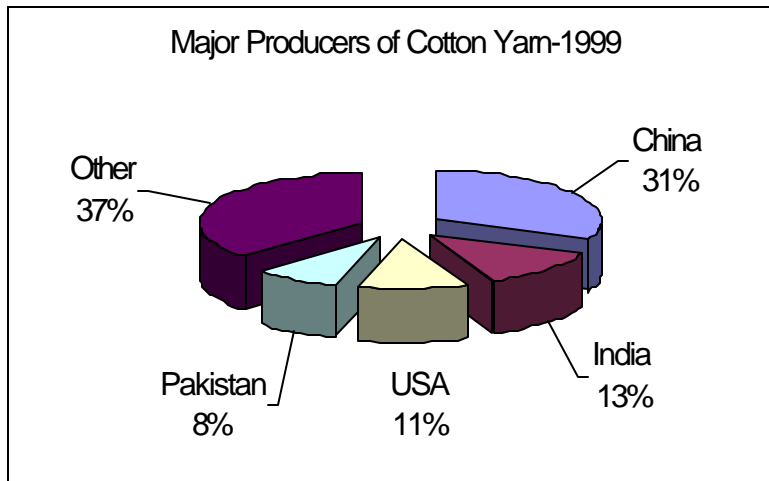
India is at second position capturing 13% share of world production. India’s cotton yarn production grew from 1.4 million metric tons to 2 million metric tons over a period of ten years.

Figure 3.9.2: Major Producers of Cotton Yarn



This depicts an average growth rate of 5%. This growth rate is highest amongst the four major competing countries. Also, in comparison to the world production growth rate of 0.53%, this is a very healthy growth rate. Unlike China, India’s cotton yarn production showed a continuous growth till 1997, declined in 1998 by 11%, but again increased by 9% in 1999.

Figure 3.9.3: Major Producers of Cotton Yarn 1999



Till 1995, India’s yarn production was lesser than that of USA but due to its high growth rate, it managed to become world’s second largest producer in 1996 when its yarn production increased compared to that of USA.

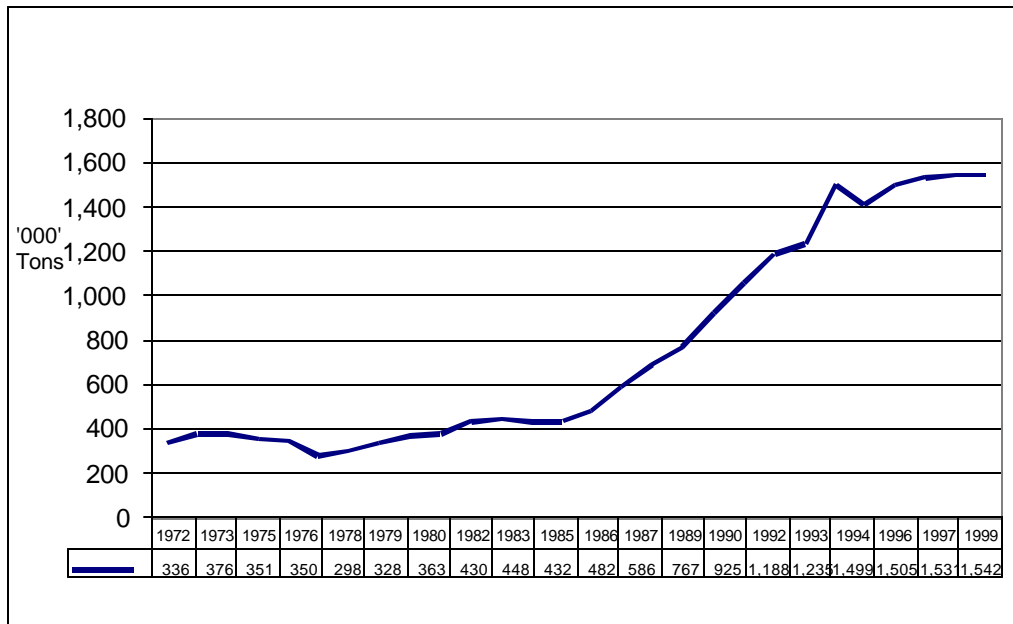
USA stands at third position in world cotton yarn production. Growth rate for USA yarn production for the period of ten years (1990-99) is 3.8%. USA production took a hike in 1991 when it showed a growth of 14%. USA cotton yarn production showed an increase till 1995 but after that, there was a negative growth rate except that for in 1997.

3.10. Pakistan's Yarn Production

Pakistan is at number four positions in world's cotton yarn production with 8% share. Its production grew at an average rate of 4.9% for the period from 1990 to 1999. This growth figure is very healthy considering the average global yarn production growth rate of 0.53%. It is only slightly lower than India's growth rate. Pakistan's yarn production showed a slight decline of 3% in 1991 but increased sharply by 27% from 0.9 million metric tons to 1.2 million ton in 1992.

Tracing the history of yarn production in Pakistan from 1972 till now, it can be seen in Figure 3.10.1 that the production of yarn increased by 4.6 times in this period.

Figure 3.10.1: Yarn Production of Pakistan



The curve can be divided into two distinct growth phases, the low growth phase i.e. from 1972 to 1985 and high growth phase i.e. from 1985 to 1999. From 1985 onwards, the production of yarn remained on an increase with the exception of a decrease during the year 1993-94. Till 1985, compounded annual growth rate has been 1.95% while from 1985 to 1999, the same figure has been 9.5%. In absolute terms, total yarn production increased by 1.3 times during the low growth phase and 3.5 times during the high growth phase.

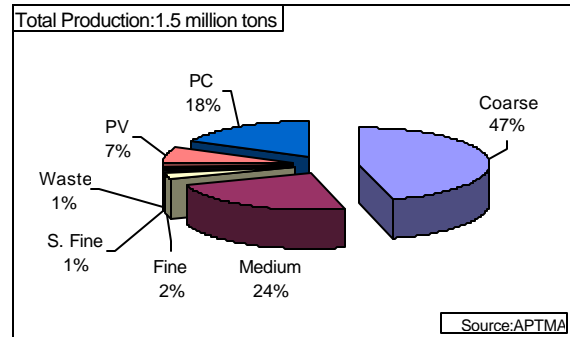
Pakistan's spinning industry manufactures all counts of yarn but traditionally, the product mix is highly tilted towards low value-added yarns. Break-up of Pakistan's yarn production for 1999 shows that about 70% of Pakistan's yarn production is in coarse and medium counts. Coarse count is the largest category produced by the Pakistan's spinning industry. 47% of the total yarn production fell in this category. It was followed by medium count having 24% share. Fine and super fine accounted only for 3% of the total production.

Table 3.10.1: Pakistan Yarn Production break-up.

Count Wise Production of Yarn	
Yarn Production-1999 (000 Tons)	
Coarse	707
Medium	368
Fine	37
Super fine	19
Polyester Viscose	115
Polyester Cotton	275
Waste	21
Total	1,542

Source: APTMA

Figure 3.10.2: Pakistan's Yarn Production-1999 Count-wise Break up



A look into further break-up of yarn into different counts is shown in, Figure 3.10.5 & Figure 3.10.6.

Figure 3.10.3: Break up of Coarse Count Production-1999

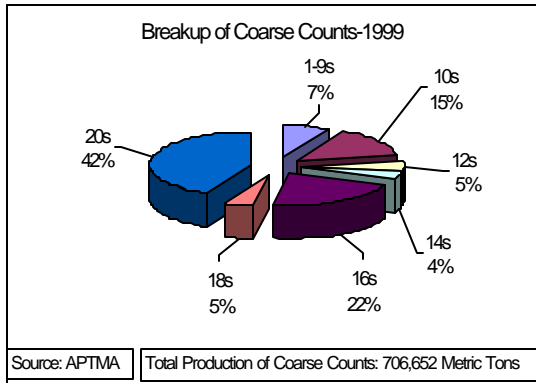
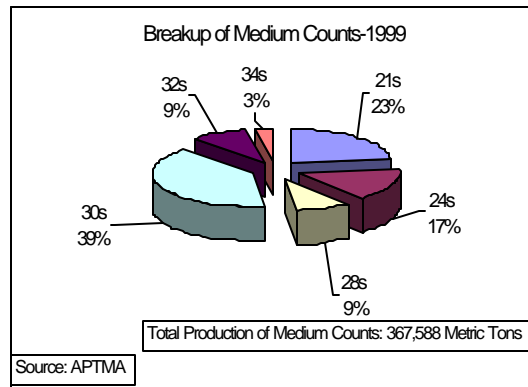
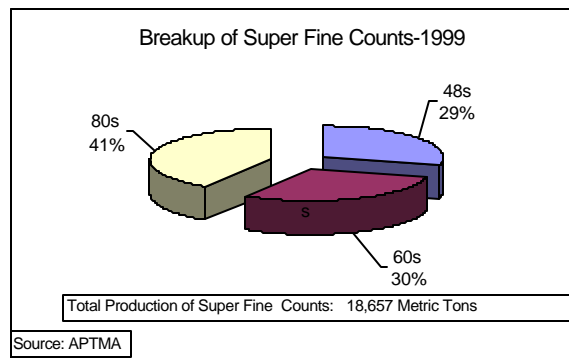


Figure 3.10.4: Break Up of Medium Counts-Production



In the coarse counts, highest share is that of 20s (42%). In the medium counts, 30s is produced in largest quantity constituting 39% of the total medium count production. Other medium count produced in large quantity is 21s which accounts for 23% of the total medium yarn production. Together, 20s and 21s account for about 25% of the total yarn production. In the coarse counts, 10s and 16s are the two other widely produced counts. 16s is used mainly for producing trouser cloth while the usage of 10s is mainly for producing denim cloth.

Figure 3.10.5: Break-up of Super fine Counts - 1999



In fine counts category, only three major counts, 36s, 40s and 47s are produced in large quantities. Of this, more than half of the production is of 40s. In the super fine category, 80s forms the biggest category with 41% share.

Figure 3.10.6: Break of Fine Counts - 1999

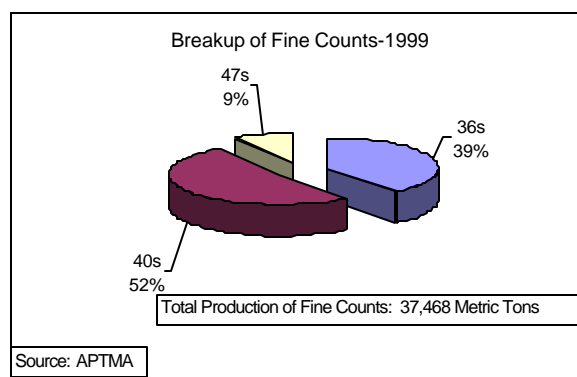


Table 3.10.2: Count wise Break-up of Pakistan's Cotton/Blended Yarn Production in 1999

Count	Production (Tons)	Share	Count	Production (Tons)	Share
1-9s	52,548	3.4%	32s	34,169	2.2%
10s	104,767	6.8%	34s	10,726	0.7%
12s	34,784	2.3%	36s	14,791	1.0%
14s	25,143	1.6%	40s	19,391	1.3%
16s	153,304	9.9%	47s	3,286	0.2%
18s	33,369	2.2%	48s	5,449	0.4%
20s	302,737	19.6%	60s	5,581	0.4%
21s	83,347	5.4%	80s	7,627	0.5%
24s	60,765	3.9%	PV	115,334	7.5%
28s	32,557	2.1%	PC	275,229	17.9%
30s	146,024	9.5%	Yarn from waste	20,970	1.4%

Table 3.10.2 gives the production of different types of yarns and their percentage shares in the total yarn production of Pakistan for the year 1999. On an overall basis, 20s is the most popular yarn in the industry capturing 19.6% share of the total yarn production. 16s is the second most widely manufactured yarn and has 9.9% share in the total production. Looking at Table 3.10.2, 30s can be seen as the third largest count produced in the cotton yarns.

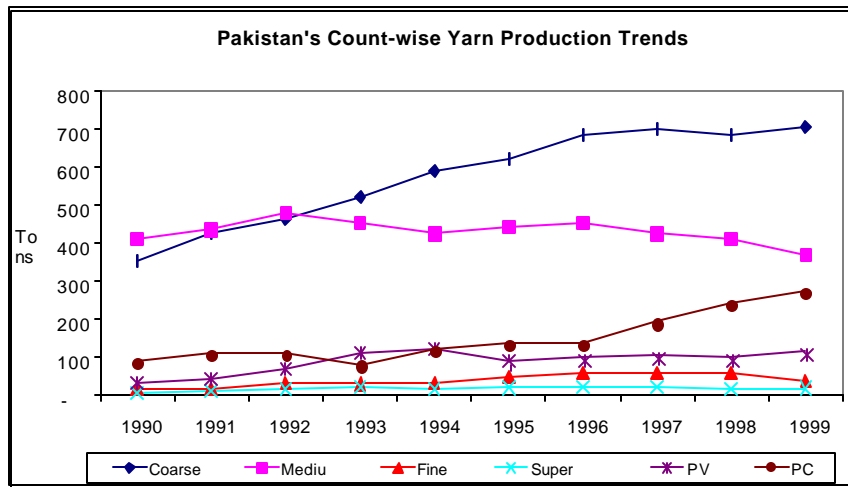
Major reason for this trend is the staple length of the Pakistani cotton that is very well suited for manufacturing these counts. Production of high counts requires cotton that has fibre of long staple length. The mix of Pakistani cotton contains a low percentage of long staple fibre. The break up of Pakistani cotton according to fibre staple length is shown in Table 3.10.3.

Table 3.10.3: Percent break-down into Staple Lengths

	Staple Length	% of production
Short	Below 20.64 mm	1.2%
Medium	20.64-25.4 mm	14.0%
Medium Long	26.64-27.78 mm	72.9%
Long	28.57-33.34 mm	2.8%

High percentage of Coarse counts in production is reflected in the export mix of yarn also which results in very low average unit price realisation in the international markets.

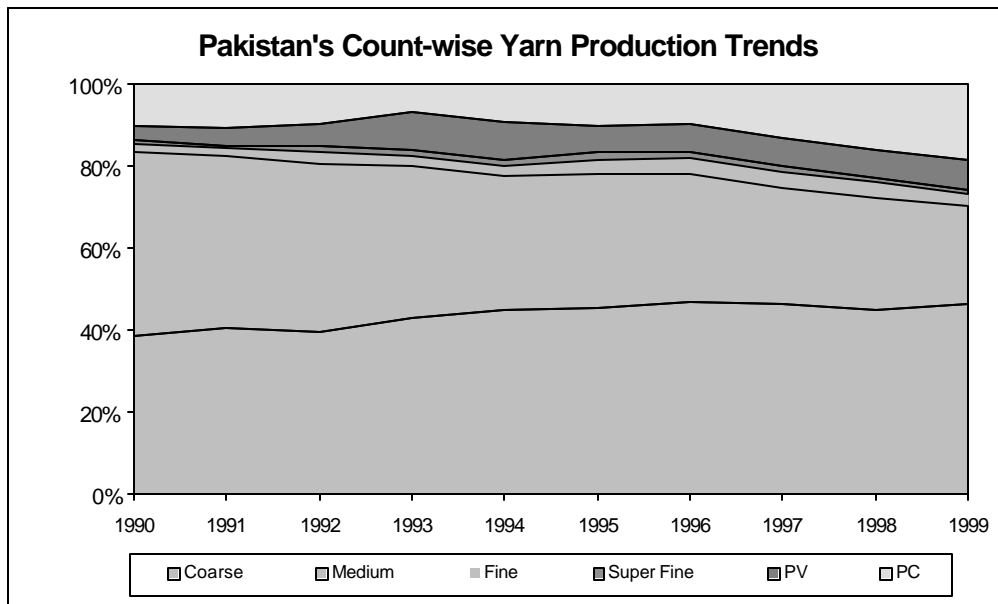
Figure 3.10.7: Pakistan’s Count wise Yarn Production Trends



Looking at 1990 scene, medium counts is the largest category followed by the coarse counts. Medium counts remained the largest category till 1992 after which a decline in its production started. The production of coarse counts increased continuously till 1999 with the exception of a small decrease in 1998. The productions of fine and superfine yarns did not show any major change in this period. However, during the period 1994-98, a small rise in production of fine count can be seen.

Other yarn that showed a positive increase in production was the PC yarn. In 1990, its production was almost 100,000 tons which more than doubled in a period of nine years. Increase in PV yarn was smaller compared to that in PC.

Figure 3.10.8: Pakistan’s Count wise Yarn Production Trends

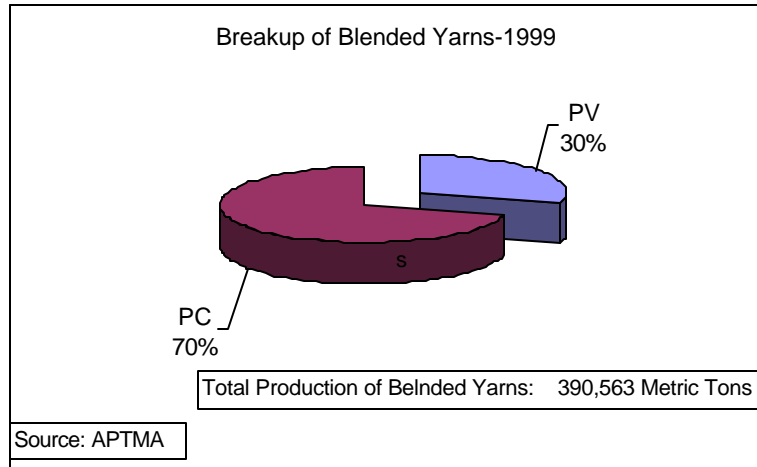


Looking at the percentage shares trends of yarn production, it can be seen that coarse counts have increased their share in the overall pie. Shares of medium counts have decreased while fine and superfine counts have maintained their shares. Other major increase is seen in the share of PC yarn.

3.10.1. Blended Yarns

In the category of the blended yarns, Polyester/Cotton (PC) and Polyester/Viscose (PV) are the main types of yarns produced by the Pakistani spinning industry.

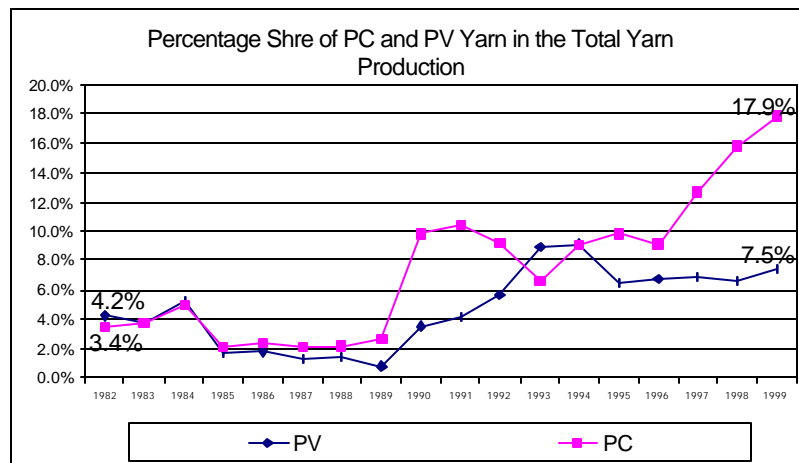
Figure 3.10.1: Break-up of Blended Yarns - 1999



PC yarn claims 70% share of the total production of the blended yarn, the rest 30% claimed by PV yarn.

Blended yarns constitute a smaller portion of the Pakistan's total yarn production. Percentage share trend of PC and PV for the period 1982-99 is shown in Figure 3.10.2. In 1982, share of PC was only 3.4% of the total yarn production that increased to about 10% till 1996 in a wavy fashion. But from 1996 onwards, there has been a trend of continuous increase in production of PC yarn and its percentage share has increased to 17.9% in 1999. Major reason for this trend has been the growth of polyester industry in Pakistan leading to easy availability of polyester staple fibre. Although the locally manufactured polyester staple fibre is expensive compared to the imported fibre but even in this case, it has resulted in increased production of blended yarns by the spinning industry.

Figure 3.10.2: Percentage Share of PC & PV Yarn



Growth in PV yarn has been lesser significant compared to that in PC yarn. The share increased from 4.2% in 1982 to 7.5% in 1999. Viscose fibre industry has not developed in Pakistan and almost all of the viscose fibre used is imported. According to the Monthly Performance Review of TCO for the year 1997-98, total imports of viscose staple fibre were 20.7 million kg which amounted to Rs 1.3 billion.

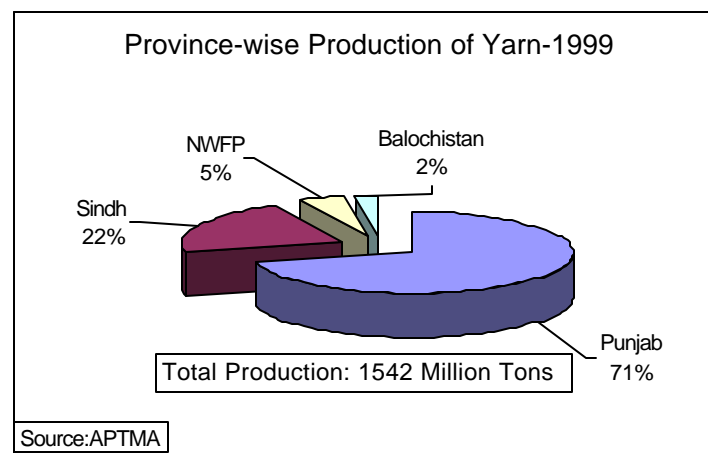
Table 3.10.1: Spindle Capacity Utilisation for MMF

Spindle Capacity Utilization for MMF		
Country	Cotton	MMF
China	65%	35%
India	60%	40%
Indonesia	66%	34%
Korea	57%	43%
Thailand	51%	49%
Taiwan	34%	66%
Pakistan	82%	18%

Looking at the spindles capacity utilisation for MMF in major textile exporters, Pakistan is found to be operating at a very low usage of spindles for MMF spinning. Far Eastern countries have the higher reliance on MMF compared to other countries. Taiwan has the highest figure where 66% of the total spindles are being used for spinning MMF. The reason for this is the non-availability of local cotton and large local manufacturing base of MMF. Pakistan is operating at 18% utilisation for MMF that is lowest amongst all the competitors. Although local availability of cotton is the competitive edge of Pakistan and its utilisation should naturally be higher for cotton but even India and China use 40% and 35% of their spindles for spinning MMF. Their figure is more than double than that of Pakistan. Comparison with India and China is more realistic because they are larger cotton producers than Pakistan and their competitive edge in textiles also stems from local cotton production. But they are trying to follow the world trend in which Pakistan is lagging far behind.

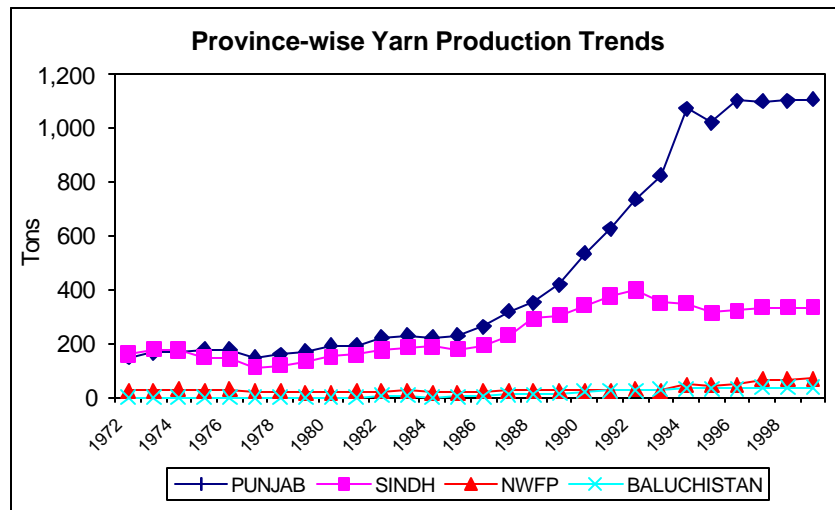
3.10.1.1. Province-wise Yarn Production

In 1999, total yarn production was 1,542 million metric tons. Of this, 93% was produced in two provinces of Punjab and Sindh and only 7% in NWFP and Baluchistan.

Figure 3.10.1: Province wise Production of Yarn 1999

The share of Punjab in total number of installed spindles was 68% and its share in yarn production is 71%. Assuming same productivity levels, it can be inferred that in Punjab the percentage of working spindles is higher than those in other provinces.

Figure 3.10.2: Province wise Yarn Production Trends



Looking at the trends of yarn production in different provinces, it can be seen that the production boom that started after 1985, was concentrated in the province of Punjab. If we look at the yarn production shares of Punjab and Sind in 1985, we come to know that Punjab accounted for only 54% production at that time while Sind's share was 41%. In Sind, production was almost constant. A small production increase can also be seen in NWFP.

3.10.1.2. Move to High Value-added Yarns

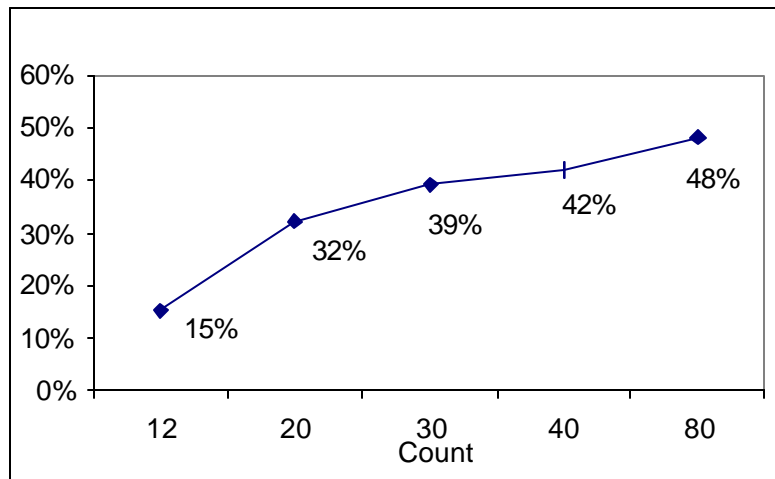
There is a strong need for spinning industry to diversify its product mix and increase the share of high value-added yarns in its total production. This is important both from the points of view of exporting more high value-added yarn and providing good quality raw material to weaving and knitting industries that can manufacture high value added fabrics to fulfil the requirements of garments and made-ups industries.

High value-added yarns not only include yarns of high counts but also other specialised yarns like dyed yarns, melange yarns etc.

One measure of high value of higher counts is the price fetched by these yarns in the local market. Price comparison across different counts of yarn is shown in Table 3.10.1.

Table 3.10.1 : Price Comparison of Cotton Yarn

Count	Lowest Price (Rs/10 lbs.)	Highest Price (Rs/10 lbs.)
7s	190	265
10s	230	460
16s	300	510
20s	435	520
24s	470	575
30s	572	715
40s	640	845
52s	800	1090
80s	1170	1750

Figure 3.10.1 : Equity IRR for Different Counts

High price is not the only variable that the investor is interested in while making the investment decisions. He has to look at the cost structures also to have an exact idea of the viability of going into another product line. Figure 3.10.1 & Table 3.10.2 shows the IRRs calculated for yarns of different counts. IRR takes into account not only the price and costs but also the capital investments going into a project.

Table 3.10.2 : Equity IRR of Different Counts

Count	12	20	30	40	80
Equity IRR	15%	32%	39%	42%	48%
Project IRR	13%	26%	30%	32%	35%

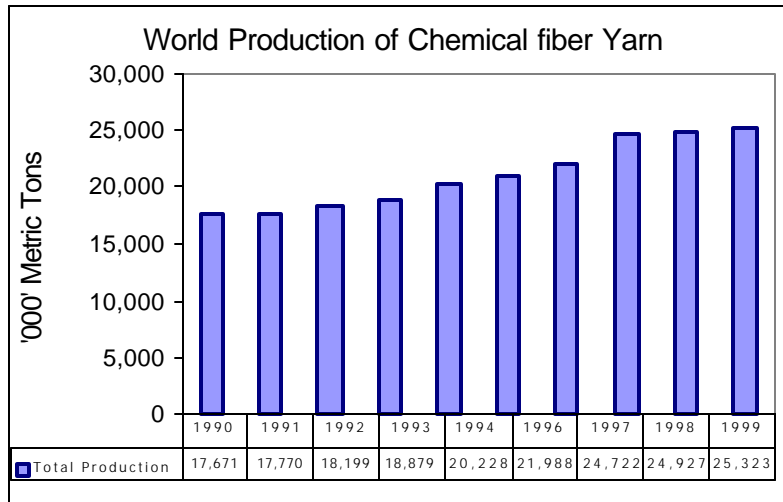
Both equity and project IRRs are higher for higher counts. Higher profitability of higher counts should be a driver for the industry to move in this direction. Despite these figures, the industry has not moved into higher counts. Along with other reasons, one reason for this state is the attitude of the investors. With few exceptions, majority of the industrialists are not enterprising. They do not possess the required entrepreneurial spirit driving them towards continuous improvement. Moving into higher value-added products mean greater supervision and strict management control systems. Strict quality control measures are required to minimise higher probable rejects. Majority of the investors are not willing to take this pain and are satisfied sitting at the bottom of the quality pyramid.

There is a need that Government should provide proper incentives to the industry targeted at moving the industry towards increasing the share of high value-added yarns in production and exports.

Currently, Export Refinance Facility is provided on all counts of yarn. For cotton yarn, Government should allow this facility only for count 40 and above. For blended yarns this facility should remain there for all types. For specialised yarns, the rate of refinance should be lower compared to the normal yarns.

3.10.2. Manmade Fibre Production

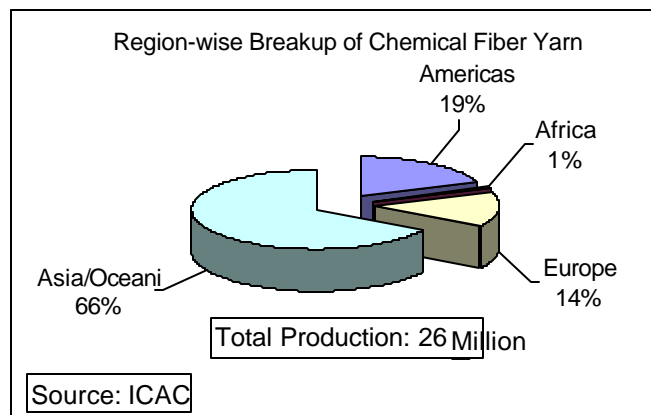
Total global manmade fibre (MMF) yarn production in 1999 was 26 million metric tons. Production trend of manmade fibres (MMF) yarn from 1990 to 1999 is shown in Figure 3.10.1.

Figure 3.10.1 : World Production of Chemical Fibre Yarn

Unlike cotton yarn production, production of MMF yarn has shown a consistent growth during the specified period. Growth rate is higher in early nineties increasing to 12.4% in the period 1996-97. After 1997, the curve tapered off. Average growth rate for the ten years has been 4.1%, which is much higher compared to 0.53% growth rate for cotton yarn. The reason for this difference is the finiteness of cotton production. Cotton production is almost constant while world population is growing. To meet the shortfall in fibre requirement, production of MMF yarn has to go up.

3.10.2.1. Region-wise Production of MMF Yarn

Production of MMF fibre yarn is concentrated in Asia, with 66% share of the total world production.

Figure 3.10.1: Region wise Break-up of Chemical Fibre Yarn

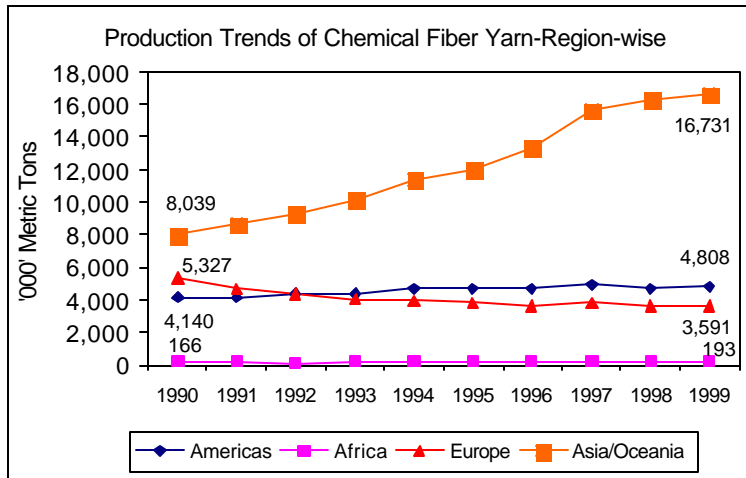
19% of the total production is done in American continents. Europe and Africa have 14% and 1% share respectively. The regional break-up of production is shown in Figure 3.10.1. This is yet another example of the concentration of manufacturing activities in Asia.

Figure 3.10.2 shows ten-year production trend of different regions from 1990 to 1999. The trend is quite similar to that of cotton yarn production. Production of MMF yarn in Europe is on a decline while it is increasing in all the other continents. Europe is getting out of production due to the increasing labour costs. The production has dropped from 5.3 billion tons to 3.6 billion tons in ten years, which is an average decline rate of 4.2% per year.

Opportunities being created by decreasing production in Europe are being tapped by other three continents, major share being taken by Asia. Average growth rates of Asia, Americas and Africa are 8.6%, 2.3% and

1.7% respectively. This is in contrast to the growth trend of cotton yarn production in which highest average growth rate was that of Americas and not that of Asia.

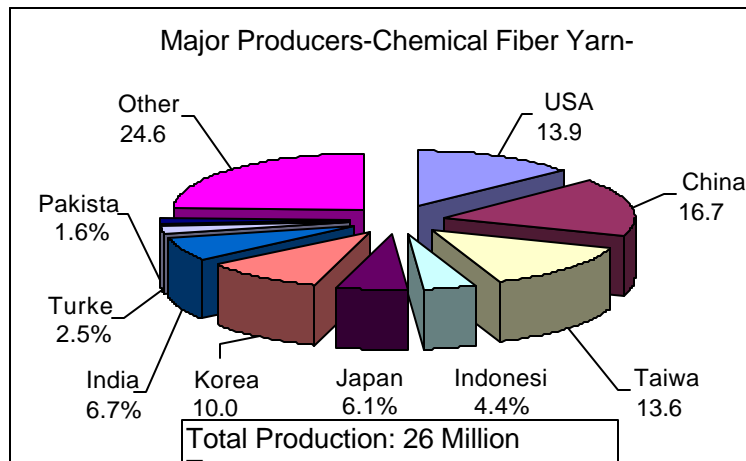
Figure 3.10.2: Production Trends of Chemical Fibre Region Wise



3.10.2.2. Major MMF Yarn Producing Countries

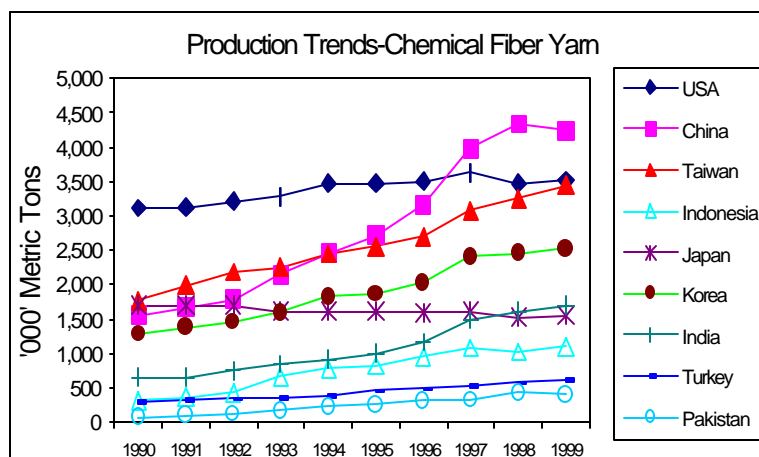
Of the nine major MMF yarn manufacturing countries, with the exception of USA, all belong to Asia. Within Asia, the concentration of production is in the Far Eastern countries. China is the biggest producer of MMF yarn in the world with production of 4.2 million metric tons.

Figure 3.10.1: Major Producers of Chemical Fibre Yarn



This accounted for 16.7% of the total world production. USA is the second biggest producer with 13.9% share, followed by 13.6% share of Taiwan.

Figure 3.10.2: Production Trends - Chemical Fibre Yarn



Looking at the production trends of last ten years, it can be seen that till 1996, USA used to be the largest producer of MMF yarn but was overtaken by China in 1997. Taiwan, Korea, India and Turkey are the four countries which have shown positive growth throughout from 1990 to 1999. USA grew at a modest pace with average growth rate of 1.4%. Production figures of major producers in 1999 and their average growth rates from 1990 to 1999 are shown in Table 3.10.1.

Table 3.10.1: Production & Growth Rates of MMF Yarn

Rank	Country	Production in 1999 ('000' M tons)	Growth rate-1990-99
1	China	4,237	12.0%
2	USA	3,518	1.4%
3	Taiwan	3,445	7.7%
4	Korea	2,525	7.9%
5	India	1,694	11.4%
6	Japan	1,556	-1.0%
7	Indonesia	1,102	15.4%
8	Turkey	625	8.4%
9	Pakistan	401	21.6%

Japan is decreasing its production of MMF yarn and has an average growth rate of -1.0%. Looking at the growth rates, it can be predicted that production by Taiwan and Korea will surpass that by USA in the next few years.

Pakistan is a small producer in the global scenario. Total production in 1999 was 413,000 metric tons that is 1.6% of the total global production. This number seems reasonable considering the fact that the basic raw material of MMF yarn is not available in Pakistan. This implies that without having a direct competitive edge, Pakistan has developed a MMF yarn industry.

It is interesting to note that among the nine countries, highest growth rate is that of Pakistan (21.6%). The reason is that Pakistan's industry is in the initial phases of its growth while the industries of other producing countries are in mature phases of their growths.

3.10.2.3. Manmade Fibre Yarn Industry in Pakistan

Major manmade fibres produced in Pakistan include Polyester, viscose, acrylic and other synthetic staple fibres. In the initial phase, the use of synthetic yarns other than polyester were in more demand but with the passage of time, demand for polyester yarn surpassed all other yarns. This demand-pull led to development of polyester fibre and filament yarn industry in the country.

3.10.2.4. Generic Types of Synthetic Yarns

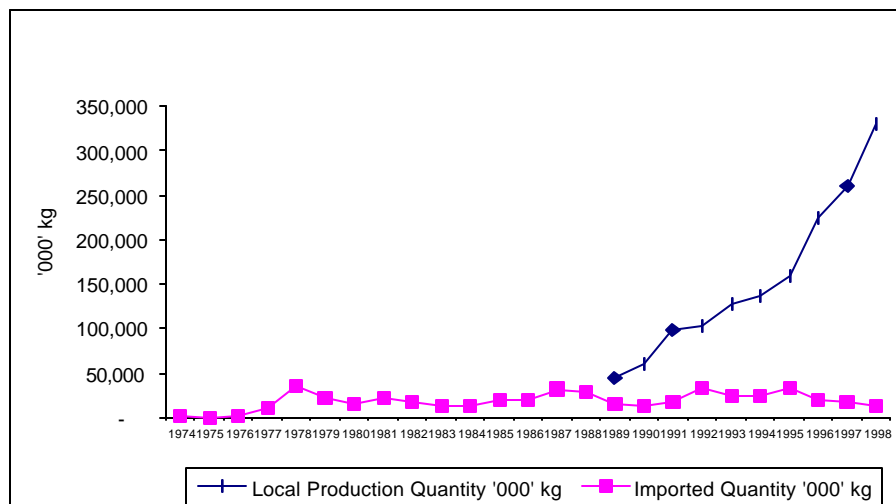
Synthetic yarns can be of two types. It can either be synthetic fibre yarn or synthetic filament yarn. Synthetic Fibre yarn is manufactured in a spinning mill. Raw material is manufactured by polyester fibre industry. In the spinning mill, it is usually blended with cotton but yarn can also be manufactured by spinning any one type of synthetic fibre, without blending with any other fibre. Yarns like Polyester-Viscose are manufactured by blending and spinning two types of synthetic fibres, polyester and viscose. Yarn made from synthetic fibres is the final product of a spinning mill.

Synthetic Filament yarn is not a spun yarn. It is manufactured by the polyester industry itself. It is not in the form of fibres and is not blended. It is in the form of a continuous strand called filament. Different number of filaments are joined together to give it the shape of yarn. This type of yarn is the product of Polyester industry.

3.10.3. Polyester Staple Fibre Industry in Pakistan

Polyester fibre is the most popular synthetic fibre having the highest demand. The growth of polyester fibre in Pakistan is shown in Figure 3.10.1.

Figure 3.10.1: Growth of Polyester Staple Fibre in Pakistan



There was no production of polyester fibre in the country before 1988. There was a limited demand that was met through imports. The polyester fibre manufacturing, starting in 1988 showed a phenomenal growth and the production levels grew from 44 million tons in 1988 to 330 million tons in 1998. This translates into a compounded growth rate of 25% per annum. Major driver for this was the demand of the weaving industry but the protection provided to the industry by the Government also played a very decisive role in development of the industry.

Another factor that has contributed towards the development of this industry has been the successive cotton crop failures in the country. Scarcity of cotton forced the spinning industry to look towards synthetic fibres for producing blended yarns.

Looking at the imports of polyester fibre, they have grown at an average rate of 47.6% from 1974 to 1998. Dividing this growth rate into two phases, the phase before local production and after that, it is found that the growth rates have dropped in the later phase. Average growth rate in the first phase has been 82% per annum while in the second phase it has been -1.1%. There has been a continuous decline in imports from 1995 onwards. So with the development of industry, the spinning industry has switched to local staple fibre.

3.10.3.1. Major Producers of Polyester Staple Fibre

Table 3.10.1 : Major Producers of Polyester Staple Fibre

Company	Production Capacity
Dewan Salman Fibres	108
Dhan Fibres	91
Rupali Polyester	22
Ibrahim Fibres	70
ICI Polyester	60
Pakistan Synthetics	28

In addition to this some companies have announced expansion programs such as Ibrahim Fibres is coming in with a 140 KT expansion in 2003. Garton a major player in Polyester Filament Yarn Industry is has also announced an expansion of 50 KT in 2002. ICI has also announced 50 KT increase in production capacity till 2001.

3.10.3.2. Market Share

The market share held by each company is directly proportional to the production capacity i.e. higher the capacity greater the market share.

Table 3.10.1: Share of Major Producers

Company	Share %
Dewan Salman Fibres	28%
Dhan Fibres	23%
Rupali Polyester	5%
Ibrahim Fibres	18%
ICI Polyester	18%
Pakistan Synthetics	6%

This translates into fact that there exist a great demand for polyester staple fiber in Pakistan and domestic resources mostly meet this demand.

3.10.4. Other Staple Fibres

Other important staple fibres include viscose and acrylic. There was no domestic production of these types of yarns according to the data reported till 1998. Import trends of viscose and acrylic staple fibres is shown in Figure 3.10.1 & Figure 3.10.2

Figure 3.10.1: Imports of Acrylic Staple Fiber in Pakistan Quantity in '000' Kg

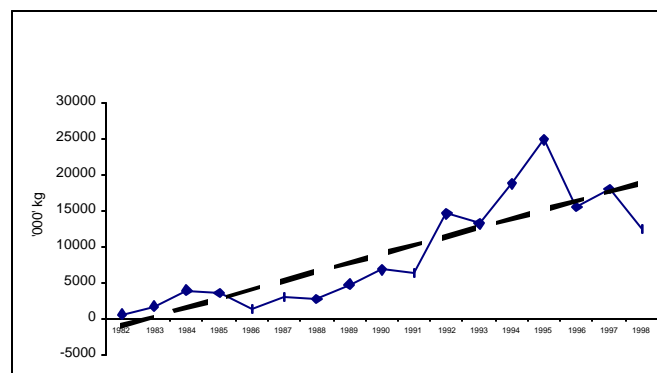
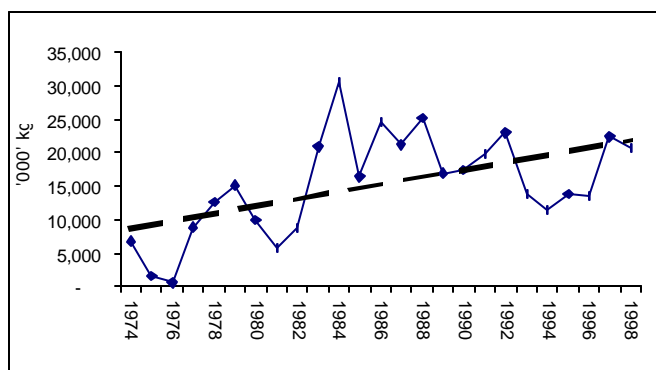


Figure 3.10.2: Imports of Viscose Staple Fibre in Pakistan Quantity in '000' Kg

The curves for both of these products are wavy. The imports are triggered by changes in demand. The trend lines shown as dotted lines on the two graphs show the trends. For both the products, trends are rising.

3.10.5. Filament Yarn Industry

Filament yarn is the 100% synthetic yarn. Major consumer of this yarn is the synthetic and art silk weaving industry. The fabric manufactured from this type of yarn is used mostly for manufacturing women's garments.

The production mix of polyester filament yarn comprises of three major types of yarns. These are yarns of 150 denier, 75 denier and 50 denier. Yarn of 50 denier is produced in the largest quantity. It forms 40% of the total production. Rest of 60% production is distributed equally between 150 and 75 denier categories. Similar to the spun yarns, the production of high value added filament yarns is also a smaller share of the total production. According to the estimate of Textile Commissioner's Organisation, high value added yarns like deniers 50/72/0, 75/48/1500, 75/48/2500 etc. constitute only 10% of the total production. Manufacturing of such yarns require special equipment which entails more investment. Demand from the weaving industry is not almost stagnant due to which investor is not willing to make investments in this sector.

Total production of polyester filament yarn in 1997 was 95,000 tons. Major filament yarn producers are shown in Table 3.10.1.

Table 3.10.1: Polyester Filament Yarn Manufacturers in Pakistan-1997

Company	Prod. Capacity Tons/Annum	Company	Prod. Capacity Tons/Annum
Rupafil	14,000	Pak Fibre	2,000
Gatron Industries Proj I	13,000	Indus Polyester	2,000
Rupali Polyester	11,000	Tawakkal Polyester	1,700
S.G. Fibres	11,000	Kohinoor Fibres	1,500
Spintex	10,000	Progressive Fibre	1,400
Gatron Industries Proj II	8,000	Dilon Ltd.	1,000
Polyron Ltd.	4,000	Tilon Ltd.	700
Fayaz Filament	3,000	Ahsan Industries	600
Bengal Fibre	3,000	Ahmad Factory	600
National Fibres	3,000	Sind Industries	500
Tri star Polyester	3,000	Total	95,000

Baluchistan province has the largest capacity of filament yarn manufacturing. One third of the total capacity is in Baluchistan. The units are situated in Hub Industrial Estate. Unlike staple fibres, there has not been any new capacity addition for filament yarn production in recent years.

Among other filament yarns, nylon and acetate rayon yarns are the two major yarns. They have small manufacturing base. Installed production capacity for nylon was 2000 tons/annum and that for acetate rayon was 3000 tons/annum.

3.11. Spinning Technology

Two kinds of technologies are used for manufacturing yarn, which are rotors and spindles. Individual spindles are installed in frames called Ring Frames and rotors are installed in rotor frames.

3.11.1. Comparison between Rotors and Spindles

Selection between rotor or ring frame for spinning of yarn depends upon the quality and count required by the user, be that for selling in the market or for self consumption in the downstream weaving or knitting industry. Generally, rotor frames are used for spinning coarser counts and ring frames are meant for finer and higher counts used for finer fabrics. Also, for spinning of fine count yarns, one needs to have good quality cotton lint which in case of rotor spinning can be compromised.

In a ring spinning frame input is called roving taken out from the simplex frame. The simplex takes its input known as sliver from draw frame. Whereas, in a rotor spinning frame, sliver from draw frames is directly fed into the rotor frame to get the spun yarn. In this case simplex is not required and is by passed.

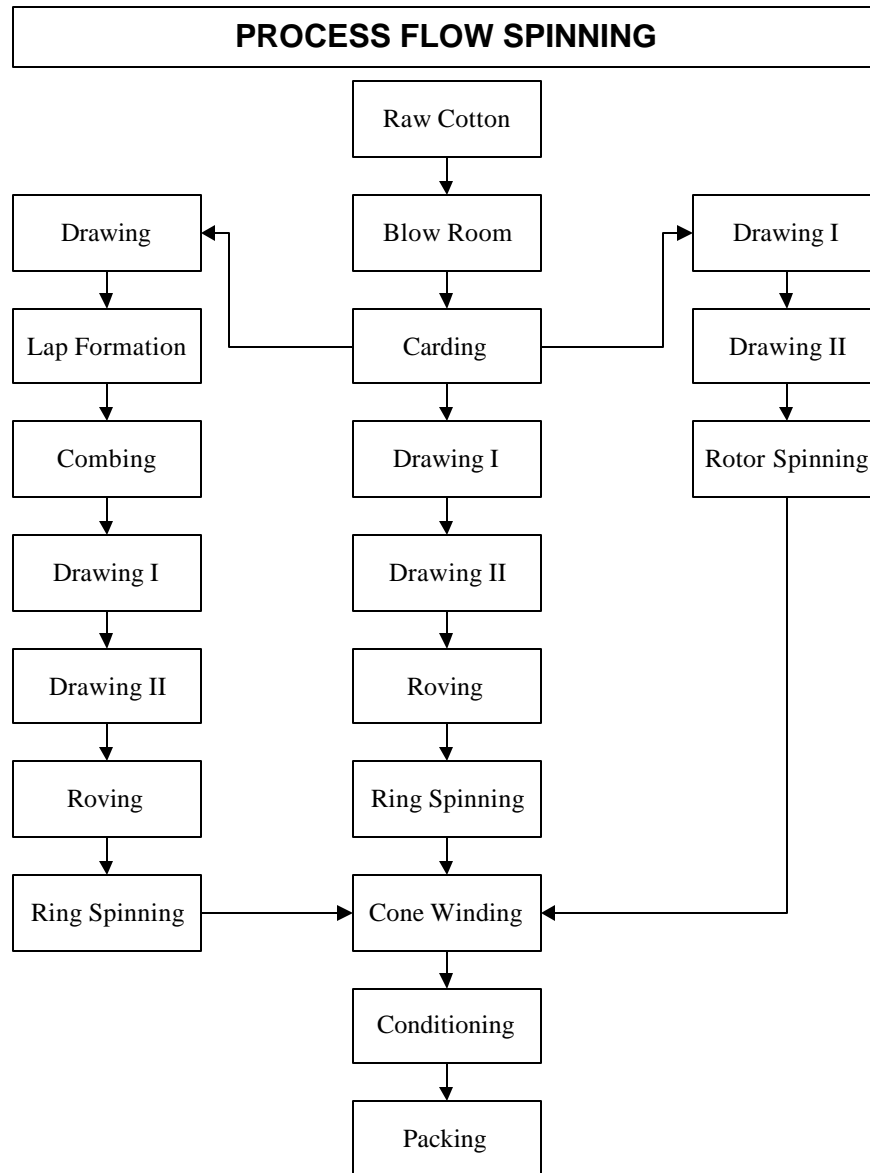
Yarn count range for a rotor spinning frame is Ne 2.5 to 60 whereas for a ring spinning frame this ranges from Ne 5.5 to 160, depending on the type of raw material being used.

Number of spindles in a ring frame can go up to 1008 but for a rotor spinning frame the number of spinning positions is 280 max.

Maximum achievable mechanical speed is higher for rotor frame compared to that for ring frame. For spindles it can go up to 25,000 rpm, whereas the maximum achievable speed in a rotor frame is 140,000 rpm.

3.11.2. Spinning Process

Figure 3.11.1: Process Flow Spinning



3.11.2.1. Blow Room Operations

In the first process of spinning, cotton is converted into laps. Cotton bales are opened up and fed into pluckers which open up the cotton fibres through tearing action. From here, it is sent to blow room. In the Blow Room, different lots of opened up cotton are mixed to achieve homogeneity and then passed through different stages of blowing and thrashing to remove trash and open it up further (usually, eight stages are used). If required, blending of fibres is also carried out in the blow room. In the end we get straightened layers of cotton wrapped in the form of rolls called Laps. In chute feed system, lap formation is eliminated and clean and blended cotton fibres pass directly to the carding machine by pneumatic controls.

3.11.2.2. Carding

The Laps from Blow Room are fed into the carding machines to get uniform Slivers which are in the form of loose continuous strands of cotton staple.

Figure 3.11.1: Carding

Another purpose of carding is to further clean the impurities that are left during the blow room operations. Some short fibres and any other foreign matter is also removed in the process. The slivers are kept in specially made lightweight drums.

Slivers from carding section can go either directly to Finisher Drawing through Breaker Drawing or through Uni Lap/Comber to Finisher Drawing.

3.11.2.3. *Drawing*

Purpose of Drawing is to straighten the fibres and remove any curls. This takes place by passing the slivers through different sets of rollers that are revolving at different speeds. The speeds of the rollers increase as the sliver moves from one stage to the next.

Figure 3.11.1: Drawing

The progressive attenuation reduces the size and weight of single sliver that has been fed. The final sliver that comes out of drawing is of the same weight and size as the number of slivers which are fed compensate for the attenuation of the individual slivers.

In the Drawing section, it is first passed through Breaker Drawing process to mix Sliver from different Laps, again to achieve homogeneity. The same process is repeated at the Finisher drawing stage.

3.11.2.4. *Combing*

Combing is a process that is usually required for production of high value-added yarns. This process serves three important purposes.

Figure 3.11.1: Combing

Firstly, it separates the short fibres from the long fibres. Secondly, it aligns and straightens the fibres and thirdly, it removes any foreign matter and neps (nep is a small knot of entangled fibres which in case of cotton usually comprises of dead or immature cotton hairs) The resulting product is a smoother, more uniform and stronger yarn.

For combing, Sliver from the carding is passed through Pre-Comber Drawing and then through the Uni Lap to get smaller Laps of cotton. These Laps are then fed to Combers to get Sliver which has 14% to 18% of shorter staples removed from it.

3.11.2.5. Roving

Slivers from the drawing stage are passed to the Roving Frame. The purpose is to further reduce the size of the sliver and to impart a little twist to enable it to withstand the tension in the ring spinning frame. The product from this operation is also called Roving and is spun around big sized bobbins.

3.11.2.6. Ring Spinning

Ring Spinning is the stage from which yarn is obtained in its proper count and twist. Four actions take place in this stage.

Figure 3.11.1: Ring Frame

First is roving delivery. Second is drafting that is process in which the linear density of the roving is decreased by controlling the surface speeds of the input and output machine components. Thirdly, twist insertion into yarn and final action is winding. All these operations take place continuously in a relative order. The product of ring spinning is the yarn of given count, twist type (S or Z), draft and (TPI) Twists per Inch.

3.11.2.7. Cone winding

Yarn from Ring Frame Machines is the input for Cone Winding Machine. Here yarn is wound on Cones, which is the final product to be sold in the market.

Figure 3.11.1: AutoCone Winding Machine



Figure 3.11.2: Doubling Machine



If 2-Ply yarn is needed CONES from this section is taken to Doubler Winding Machine which twists two single yarn strands to give 2-Ply yarn on Cones.

3.11.2.8. Conditioning

Before packing in polyethylene bags, Conditioning is done by storing the Cones in a controlled moisture environment for 24 hours. This allows the yarn to absorb moisture to a certain level that is necessary for keeping its strength.

3.12. BMR Requirements of Pakistani Spinning Industry

Balancing, Modernization and Rehabilitation (BMR) is a regular requirement of any industry. Need for BMR arises as a result of any of the following reasons:

- a. There is a change in the product features that warrants a newer technology.
- b. Levels of production need to be enhanced.
- c. Plant/Machinery needs a thorough refurbishment as a result of wear and tear.

BMR plays a pivotal role in keeping the local industry up to mark and helping it to remain competitive in the international markets.

Spinning industry in Pakistan has, in the past 53 years, undergone a number of BMRs on unit to unit basis. The requirements for these have varied from additions and/or up-gradation of the following processes:

1. Back Process
2. Spinning
3. Winding
4. Testing Facilities

The BMR programs result in diversification of the product and production efficiencies, coupled with reduced costs.

General level of technology in the Pakistani spinning industry is satisfactory. Most of the industry is using state-of-the-art machinery. Though spinning industry is old and many of the units are as old as the time of partition, most of them have undergone BMR at successive times in order for them to remain operational in a competitive manner. However, since the industry have suffered due to bad cotton crops in nineties, so the investment going towards BMR has decreased. The result is that currently, BMR requirements in the industry are higher than the previous times and lack of BMR emerges as one of the major problems of Spinning industry.

BMR requirements of the spinning industry for the next five years has been assessed a part of the long-term policy on textiles. The exact requirement of BMR varies from one company to another. There is no fixed rule by which an estimate can be made on an industry wide basis. However, BMR requirements have been estimated on the basis of available information and certain assumptions.

3.12.1. Methodology:

Industry information was collected to calculate the projected investment requirement for BMR. Historical data of 52 textile units was taken as a basis to calculate the BMR cost per spindle. The information was collected and provided by APTMA. Questionnaires were sent to textile units (spinning and composite) to get the information on BMR done by these companies. 52 companies returned the filled questionnaires and 24 respondents reported the investments made by them in BMR. Following assumptions were made:

- a. Some of the mills reporting about their BMR passed on the detail of the machinery only and not the costs. For such machinery, prevalent prices of the Japanese makes were considered except for the ring spinning frames which were assumed to be Chinese, as has been the trend of the industry since last many years.
- b. Composite units allocate more BMR funds for their weaving and processing areas. Inclusion of these would cast a negative trend on the BMR cost figure. Therefore, only stand-alone Spinning units were taken into account. This resulted in the sample size reducing to 13 companies only.

BMR cost per spindle was calculated for the sample units and the results of this sample were extrapolated to the entire population of spinning units in Pakistan to come up with the BMR requirement of the industry.

3.12.2. BMR Cost per Spindle

Historic information on BMR done by the sample units from 1995 to 1999 is shown in Table 3.12.1.

Total amount spent on BMR of 391,224 spindles was Rs 822 million. Looking at the BMR cost per spindle, a lot of variation can be seen between different companies. This variation exists because of the variety of processes existing in the overall spinning process. BMR costs vary widely for different types of machinery and equipment used in different processes. This variation makes the estimation even more difficult. Since capacity of a spinning unit is defined in terms of number of spindles, so cost per spindle was chosen as the basis for calculating the overall BMR cost. Average BMR cost per spindle for thirteen units comes out to be Rs 2,103. For ring spinning frames, Chinese make is taken as standard, unless otherwise specified. The cost of ring frame of 480 spindles is taken to be Rs 1,176,000.

Table 3.12.1 : BMR Estimates per Spindle

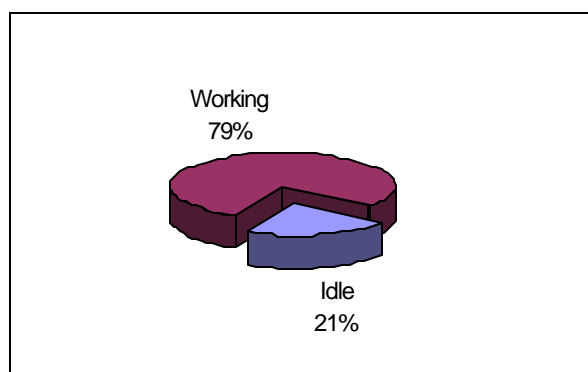
Sr.#	No. of Spindles	Name of Mill	Total BMR Cost (Rs)	BMRCost/Spindle (Rs)
1	30,176	Ali Asghar Textile Mills	29,000,000	96
2	39,360	Bhanero Textile Mills	112,000,000	2846
3	23,040	Blessed Textile Mills	44,000,000	1910
4	25,376	Crescent Ujala Ltd.	20,100,000	792
5	19,200	Chenab Fibres Mills	36,726,861	1913
6	16,320	D. M. Textile Mills	35,904,028	2200
7	20,640	Faisal Spinning Mills	65,000,000	3149
8	17,280	Hira Mills Ltd.	66,133,722	3827
9	58,080	Ibrahim Textile Mills	230,639,000	3971
10	28,800	Kunjah Textile Mills	17,010,000	591
11	31,608	Rahman Cotton Mills	55,228,916	1747
12	15,360	Tayyab Textile Mills	3,432,000	223
13	17,568	Ashiana Cotton Products	20,850,000	1187
Total	391,224		822,774,527	2,103

Source: APTMA

3.12.3. BMR Requirement of the Sick Units

According to APTMA, in 1999, out of the 8.35 million total installed spindles, 6.63 million spindles were in operation, meaning thereby that 1.72 million spindles were idle. Of the closed spindles all are not in a revivable condition.

Figure 3.12.1: Spinning Capacity Utilisation



An analysis was conducted to come up with the number of spindles that can be revived. Two approaches were followed for calculating the number of revivable spindles.

- Based on operational life of spindles
- Based on TCO report

An analysis of these closed units was conducted and spindles distribution with respect to installed and operational age was determined. Complete detail of these units and their age distribution is shown given in **Appendix-----**. For the purpose of the calculation, it was assumed that the units that should be considered revivable should not have their operational age more than 12 years. On this basis, total spindles falling in this definition came out to be 636,172. Using the BMR cost per spindle of Rs 2,103, total investment requirement for the above revivable spindles comes out to be Rs 1.34 billion.

In the second approach the status of these 120 units as given in the TCO's report was used as the basis of calculation. According to the report, there are 1.854 million spindles in these 120 closed units. These spindles were divided into the categories listed below:

- a. 18 units were reported as old and obsolete. Number of spindles in these units were 313,015
- b. 23 units with 591,204 spindles which were more than 25 years old and had a used life of 20 years or more.
- c. 7 other units in the general group which have old and obsolete machinery having 124,868 spindles.
- d. 3 public sector units which had been closed for 10 years or more. (Likelihood of theft of machinery). These have 125,036 spindles.
- e. 14 units with old and 2nd hand equipment with 196,312 spindles. Of these spindles, 46,436 spindles were less than 10 years old. So they were removed from the category of un-revivable spindles and only 149,876 spindles were considered un-revivable in this category.

Total un-revivable spindles were calculated as 1,303,999. The balance 550,064 was considered revivable. Applying BMR cost per spindle to this number of spindles, total investment requirement comes out as Rs 1.12 billion.

3.12.4. BMR Requirements of the Working Units

BMR requirements were calculated at the current point in time and also for the next five years. Different scenarios were built by assuming different minimum periods after which BMR becomes due for a spinning unit. Distribution of the spindles according to age is shown in Appendix ----.

In this scenario, it is assumed that in a spinning unit, BMR is required after every ten years and that all the units conduct BMR on a regular basis. 52 years from 1948 to 2000 have been divided into multiples of 10 years and the number of years from the previous BMR for each unit has been mentioned. All the spindles for which the time from the last BMR has been six years or more will be requiring BMR in the next five years. Total spindles that will be requiring BMR in this scenario are 6,588,000 and investment requirement is Rs 13.8 billion. Similar analyses were conducted by fixing the BMR period as 12, 15 and 18 years. The results are shown in Table 3.12.1.

Table 3.12.1: Investment Requirement for BMR

BMR Period	Spindles	Investment
10 Years	6,588,000	13.85
12 Years	3,766,000	7.92
15 Years	2,220,000	4.66
18 Years	650,000	1.36

3.12.5. Yarn Quality Standards

While determining the quality of any two major aspects are considered. First relates to the quality of the raw material and the other is the variation in the desired specifications. Quality of the raw fibre is defined in terms of the fibre's mean staple length and the maturity of the fibre. Fibre maturity is usually expressed as a micronaire value although it is now well established that micronaire is a composite measure of both maturity and fineness. The maturity or, in other words, the percentage of immature fibres affects the number of neps (knots) produced in carding and hence the regularity and appearance of the yarn. It also affects the dyeing behaviour of the yarn and fabric. Specifically, immature fibres tend to form small bundles, which appear as light specks in a fabric dyed to a dark shade. An associated problem concerns the existence of impurities, which becomes apparent only at the dyeing and finishing stages. Small quantities of the baling material, usually polypropylene, are often discovered when the fabric is dyed in a dark shade.

As to the yarn itself, quality considerations primarily relate to uniformity. If the yarn is of irregular strength, breakage become commonplace at the weak places; if it is uneven in count the thick places may not, for example, be able to pass through the head eye or needles of a knitting machine without causing breakage. Further, a higher than normal incidence of slub (thick places) and knots may necessitate shuttleless or air-jet looms. In order to ensure control of these quality aspects, a yarn contract will specify average

yarn strength, uniformity and possibly the permitted tolerance of thick and thin places. Many yarn specifications also specify the type of cone onto which the yarn is wound, the cone angle or other winding and packing conditions and moisture content. Thus not only the yarn quality itself must be good but also the quality of winding and the package. The cone must be strong enough to resist a long trip overseas without damage. The first layers and the reserve tail must ensure winding off without yarn breakage; falling off threads must be avoided especially on the large diameter of the cone. A guarantee of equal length or weight of all the cones has become increasingly important; indeed, premiums are paid for such deliveries.

USTER International Standards are followed world-wide for the grading and classification of yarn into different categories. Following are the major features important about the classification of yarn.

Table 3.12.1 & Table 3.12.2 list down yarn specifications for ring spun carded cotton yarns and ring spun combed yarns. For tables A and B yarn characteristics are based upon 1989 Uster statistics and the internal database of Zellweger Uster. Uster Classimat defect levels are reported in the form of the defect matrix and incidents per 100 km.

- a. CLSP. (Count Lea Strength Product)
- b. Count
- c. Count Deviation CV_t
- d. Lea Strength
- e. Single End Elongation
- f. Imperfections
 - Thick (when diameter of the yarn is +50% of the nominal dia)
 - Thin (when diameter of the yarn is -50% of the nominal dia)
 - NEPS (when diameter of the yarn is +200% of the nominal dia)
- g. Evenness CV_m
- h. Irregularity U_m
- i. Moisture
- j. Colour
- k. Twist
- l. Hairiness

Table 3.12.1: Specifications for Carded Cotton Yarn

Count text	16.5/36		21/28		25/24		0/20		37/16		50/12	
	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit
Count		+/- 2.3%		+/- 2.3%		+/- 2.3%		+/- 2.3%		+/- 2.3%		+/- 2.3%
RKM												
Single Count	13.90	12.70	14.10	12.80	14.20	12.90	14.30	13.00	14.50	13.10	14.70	13.20
Lea Test	11.50	10.20	11.40	10.20	11.50	10.30	11.60	10.40	11.70	10.50	11.90	10.60
CLSP	2,395	2,120	2,375	2,120	2,395	2,150	2,415	2,160	2,435	2,180	2,480	2,200
CV%												
Single end	11.30	12.40	11.00	12.40	10.80	12.40	10.60	12.40	10.30	12.40	10.00	12.40
Lea Test	5.00	6.00	5.00	6.00	5.00	6.00	5.00	6.00	5.00	6.00	5.00	6.00
Count /100m	3.00	3.40	3.00	3.40	3.00	3.40	3.00	3.40	3.00	3.40	3.00	3.40
Elongation %	6.40	6.00	6.80	6.40	7.10	6.60	7.40	6.90	7.80	7.30	8.40	7.80
ASTM regularity	B+	B	B+	B	B+	B	B+	B	B+	B	B	B+
Appear. Neps	B	B-	B	B-	B	B-	B	B-	B	B-	B	B-
Uster regul. M 4%	14.80	16.00	14.30	15.60	13.90	15.40	13.50	15.10	13.10	14.80	12.50	14.40
Thin places/1000m	99	208	75	167	62	143	20	121	39	100	28	76
Thick places/1000m	526	902	459	813	415	755	374	698	332	637	280	560
Neps/1000m	655	867	443	650	333	527	248	424	176	329	108	230
Uster Classimat												
Small faults/mill.m	7,800	20,100	7,800	20,100	7,800	20,100	7,800	20,100	7,800	20,100	7,800	20,100
Harmful faults ^b /mill.m	250.00	570.00	250	570	250	570	250	570	250	570	250	570
Faults												
Long thick faults/mill.m	130.00	460.00	130	460	130	460	130	460	130	460	130	460
E>8cm>100%/mill.m	40.00	110.00	40	110	40	110	40	110	40	110	40	110
Long thin/mill.m	3,070	10,000	3,070	10,000	3,070	10,000	3,070	10,000	3,070	10,000	3,070	10,000
Twist/m	1,200	+/-5%	950	+/-5%	850	+/-5%	760	+/-5%	660	+/-5%	540	+/-5%

Table 3.12.2: Specifications for Sudanese Long staple combed yarn

Count text	16.5/36		21/28		25/24		0/20		37/16		50/12	
	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit	Target _a	Limit
Count		+/- 2.2%		+/- 2.2%		+/- 2.2%		+/- 2.2%		+/- 2.2%		+/- 2.2%
RKM												
Single end	17.20	15.30	17.30	15.30	17.40	15.30	17.40	15.30	17.50	15.40	17.60	15.40
Lea Test	15.00	12.20	15.10	12.20	15.10	12.20	15.10	12.20	15.10	12.30	15.30	12.30
CLSP	3,125	2,540	3,145	2,540	3,145	2,540	3,145	2,540	3,165	2,560	3,185	2,560
CV%												
Single end	10.10	11.10	10.00	11.00	9.60	10.90	9.50	10.80	9.20	10.70	8.70	10.30
Lea Test	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50
Count /100m	5.80	5.50	6.00	5.70	6.20	5.90	6.40	6.00	6.60	6.20	7.30	6.70
Elongation %	5.80	5.50	6.00	5.70	6.20	5.90	6.40	6.00	6.60	6.20	7.30	6.70
ASTM regularity	A	A-	A	A-	A	A-	A	A-	A	A-	A	A-
Appear. Neps	A-	B+	A-	B+	A-	B+	A-	B+	A-	B+	A-	B+
Uster regul. M 4%	12.60	13.70	12.30	13.50	12.00	13.10	11.90	12.90	11.60	12.60	10.90	11.90
Thin places/1000m	48	72	34	57	23	43	19	38	13	30	5	16
Thick places/1000m	164	250	149	240	133	235	127	230	115	230	88	225
Neps/1000m	210	300	175	270	140	220	127	210	105	175	64	120
Uster Classimat												
Small faults/mill.m	2500	6200	2500	6200	2500	6200	2500	6200	2500	6200	2500	6200
Harmful faults ^b /mill.m	210	320	210	320	210	320	210	320	210	320	210	320
Faults												
Long thick faults/mill.m	90	140	90	140	90	140	90	140	90	140	90	140
E>8cm>100%/mill.m	30	70	30	70	30	70	30	70	30	70	30	70
Long thin/mill.m	1400	2100	1400	2100	1400	2100	1400	2100	1400	2100	1400	2100
Twist / m	1200	+/-5%	1075	+/-5%	930	+/-5%	875	+/-5%	770	+/-5%	550	+/-5%

3.12.6. Effect of Moisture

All the fibres have the affinity to absorb moisture (hygroscopic). If they are kept under moist conditions they will absorb moisture to a certain extent. Wool can absorb moisture up to three times of its weight without looking wet. So it becomes very important to have an idea of the moisture content while dealing in textile fibres and yarn. In order to safeguard against the changing atmospheric conditions, certain standards have been laid down for respective fibres. It is reported as 'percent regain'. Regain means the weight of moisture that is contained by the finer, expressed as percentage of dry weight of the fibre.

'Standard Regain' is the percentage of gain in weight in a standard atmosphere (usually 75F and 65% humidity) of fibre, which has been dried. The direct loss is the percentage of the total weight that is lost in drying from standard regain conditions to bone dry condition.

Table 3.12.1: Fibre Standards

Fibre	% Regain	Direct Loss %
Cotton	8.5	7.91
Hemp & Linen	12.0	10.7
Wool (raw)	16.0	13.77
Jute	13.5	12.1
Nylon	4.2	3.78
Polyester	0.4	0.36
Silk	11	9.91

3.12.7. Effect Of Elasticity

The elasticity is a very important variable, which determines the overall properties of the yarn. Cotton is more elastic than linen but less than wool. More elasticity of cotton yarn gives it a better value to it compared to that for linen. Elasticity is measured by stretching the yarn under longitudinal tension and measuring the percent elongation at the rupture point. Since the fibre length of cotton is smaller compared to other fibres, twist is the major factor, which affects the elasticity of the cotton yarn. The extensibility varies from 3% for the fine yarn to 6% for the coarse yarn. Both the percent elongation and the rupture strength are important while gauging the elasticity. Yarn count, rupture strength and extensibility are reported as CLSP (Count Lea Strength Product) which is the product of the three numbers. CLSP is the terms best suited to define the durability of cotton yarn for the purpose of weaving.

3.13. World Trade of Textile Yarn- SITC 651

The total trade in Yarn is reported under Standard International Trade Classification (SITC) code 651, which is a broad category including all types of yarns.

Global and Asian exports of yarn from 1993 to 1997 are shown in Figure 3.13.1 & Figure 3.13.2

Figure 3.13.1: Global Yarn Export Trends-SITC 651

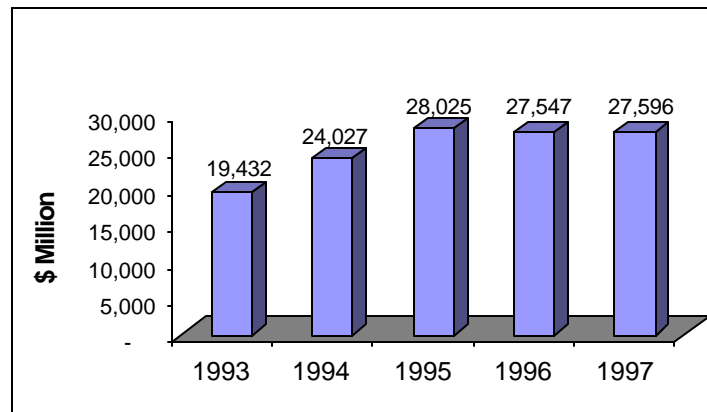
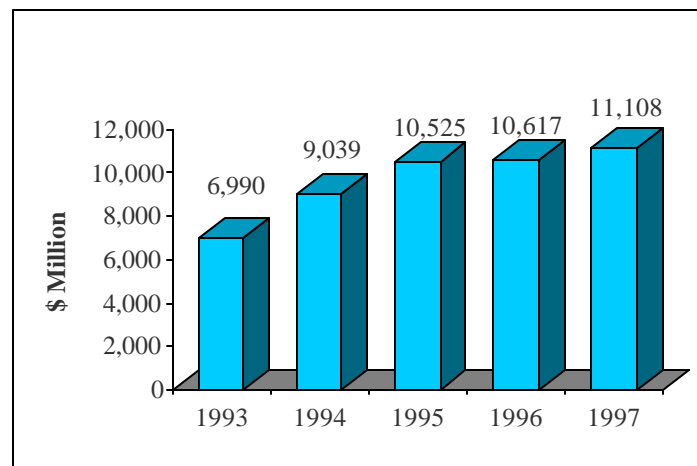
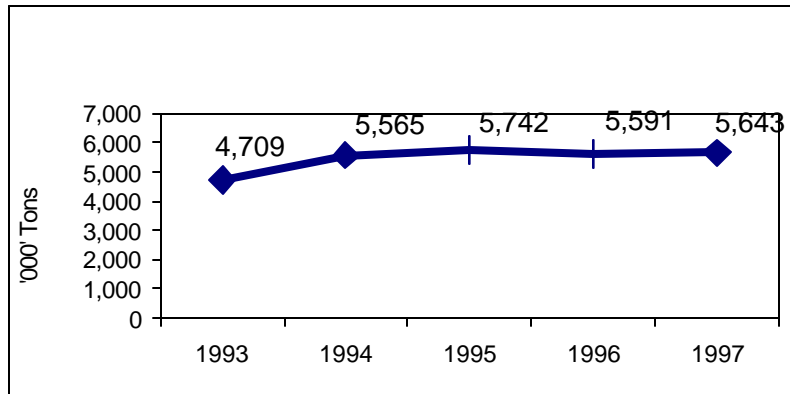


Figure 3.13.2: Asian Yarn Export Trends SITC-651



Total global market of yarn exports in 1997 was \$30 billion of which \$11 billion was exported from Asia which amounted to 37% of the total exports. Average growth rate for world exports was 9.7% while that for Asian exports was 12.8% per annum. Higher growth rate of Asia compared to that of world indicates that the Asia is increasing its market share in global exports of textile yarn. This trend is in line with the yarn production trends in different regions shown in the previous section.

Major growth in exports took place from 1993 to 1995. In fact the global exports decreased from 1995 to 1996 while for Asia, it did not decrease but the growth rate did drop.

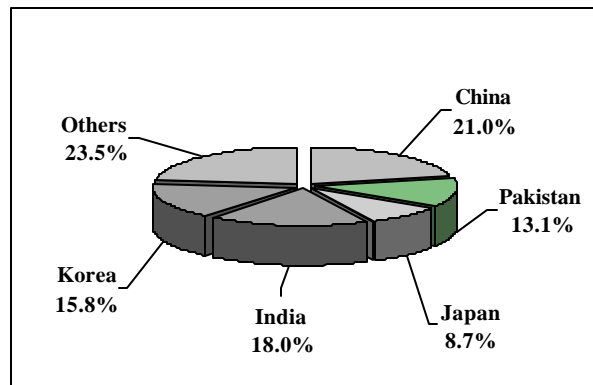
Figure 3.13.3: Global Yarn Export Quantities

Looking at the quantities exported, the trend is similar to that seen for the exported values. (The Figure 3.13.3 does not include the yarn exported from India since quantities were not reported, so the actual quantities should be little higher)

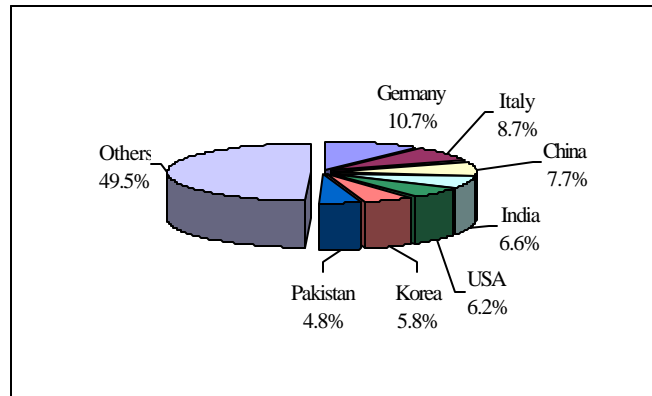
3.13.1. Major Yarn Exporting Countries

Major global and Asian yarn exporters and their market shares are shown in Figure 3.13.1 & Figure 3.13.2. Top seven countries of the world account for 52% of the total global trade of yarn. This is surprising that two top yarn exporters in the world are not Asian.

Germany is the largest exporter of yarn. Total quantity of yarn exported from Germany in 1997 was 543 million kg that fetched \$3.2 million and captured 11% market share of the global yarn export market. Looking at the growth trends for five years, Germany shows a rising trend till 1995 followed by a decline. Average growth rate of Germany during the period 1993-97 has been 5.2% per annum. Germany is not amongst the top cotton producers of the world. Major portion of the quantity exported from Germany is constituted by non-cotton yarn. Germany is followed by Italy, which exported 427 million kilograms of yarn for \$2.6 billion.

Figure 3.13.1: Major Yarn Exporters in Asia-1997 (SITC 651)

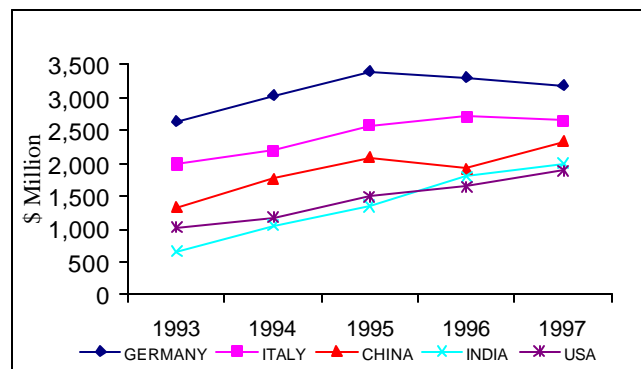
This translated into a market share of 9%. Average growth rate of Italy was 1.6% during the five years. Likewise Germany, Italy is also not a large cotton producer. Its major yarn exports are also in the non-cotton yarns. Comparing the exports of Germany and Italy with their productions, it is surprising to note that the Germany is not amongst the list of major producers of either the cotton yarn or MMF yarn.

Figure 3.13.2: Major Yarn Exporters in the World-1997 (SITC 651)

Similarly, the position of Italy is also very low in the list of producers of cotton yarn and MMF yarn. This means that these two countries are actually importing most of the yarn and re-exporting.

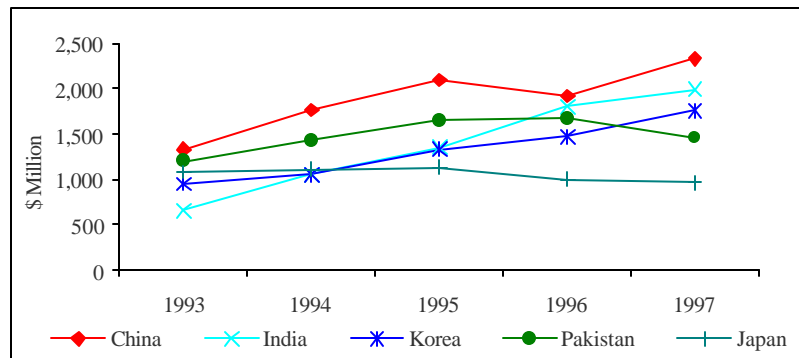
In 1997, China was the largest exporter from Asia and it ranked third in the world. Total quantity exported from China was 501 million kilograms for \$2.3 million. It accounted for 7.7% share of the global market and 21% share of the Asian exports. Looking at the export trends China showed a continuous rising trend except in 1996 where its exports declined by 9%. Average growth rate of China during the period 1993-97 has been very healthy at 16.1%. China's major share of total yarn exports is accounted by cotton yarn.

India and USA are the next two countries in the row of top yarn exporters. Both of these countries have indigenous cotton and cotton yarn constitutes the major portion of their total yarn exports. India exports value terms in 1996 were \$1.8 billion getting 6.6% share of the world exports and 18% share of the Asian exports. Exports from USA were 328 million kg fetching \$1.9 billion and capturing 6.6% global market share, Figure 3.13.3. Both India and USA have shown continuous growth during five years. Average growth rate for USA is 16.7% while the average growth rate of India from 1993 to 1996 have been phenomenal. India's exports were only \$654 million in 1993, which grew, to \$1.8 billion in three years. This translates into an average growth rate of 41% per annum. India improved its position in the list of exporters from 5th in 1993 to 2nd in 1997.

Figure 3.13.3: Major Yarn Exporters in the World

Looking at the Asian exporters in Figure 3.13.4, 77% of the total exports come from just five countries. Korea is another important exporters player in the global yarn market. Like India and USA it has also shown a very consistent growth from 1993 to 1997. Its average growth rate has been 16% per annum. Korean exports are constituted mostly by non-cotton yarns.

Figure 3.13.4: Major Yarn Exporters in Asia

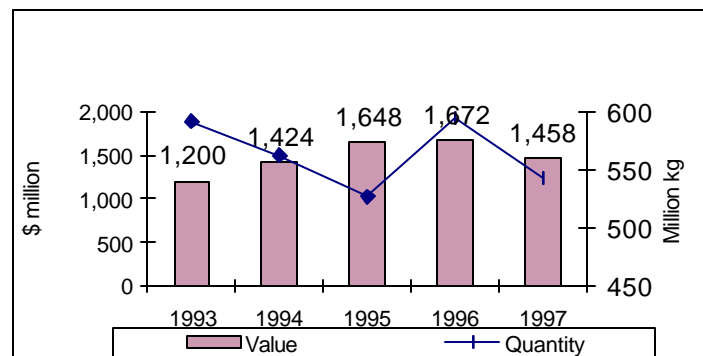


Pakistan is also included in the list of major exporters of the world. The exports of Pakistan grew from 1993 to 1996 but decreased after that. Average rate of growth was 5.8% per year.

3.13.2. Pakistan's Position

In 1997, Pakistan's market share in terms of value was 4.8% in the world and 13.1% in Asia. Looking at the quantity figures, a very surprising observation can be made. In terms of quantity, Pakistan is the largest exporter of yarn in the world. Total quantity of yarn exported from Pakistan was 594 million kilograms but it fetched only \$1.4 billion. Pakistan's market share in terms of quantity was about 8% and in terms of value, it was about 5%. This shows the kind of value Pakistan is getting for its yarn in the international market. Pakistan is not utilising its competitive edge in the shape of abundant availability of indigenous cotton. Needless to say is that a lot of improvement potential exists in yarn business for Pakistan. (Refer: Figure 3.13.1).

Figure 3.13.1: Pakistan's Yarn Exports



In 1997, Pakistan ranked 7th among the yarn exporters. In the Asian export market, Pakistan ranked 4th with 13% market share. Exports of yarn have decreased during the period 1996-97 from \$1.67 billion to \$1.45 billion. Pakistan used to hold 2nd position in Asian Yarn export market but its position declined from 2nd to 4th in 1997. The performance looks even more unsatisfactory in view of the fact that the total export market for yarn is growing. This means that Pakistan is losing market share in the yarn export market. Pakistan's yarn exports and its market shares during the time 1993-97 are shown in **Table 3.13.1**.

During the period 1993-97, Pakistan's market share dropped from 6.2% to 5.2% in the global yarn exports. As a percentage of total Asian exports, Pakistan's market share dropped from 17.1% to 13.1%.

Table 3.13.1 : Pakistan's Yarn Exports 1993-97

	1993	1994	1995	1996	1997
World Market ('000' \$)	19,432	24,027	28,025	27,547	27,596
Asian Market ('000' \$)	6,990	9,039	10,525	10,617	11,108
Pakistan's Exports ('000' \$)	1,200	1,424	1,648	1,672	1,458
World Market Share (%)	6.2%	5.9%	5.9%	6.1%	5.2%
Asian Market share (%)	17.1%	15.7%	15.6%	15.7%	13.1%

3.13.3. Major Yarn Products

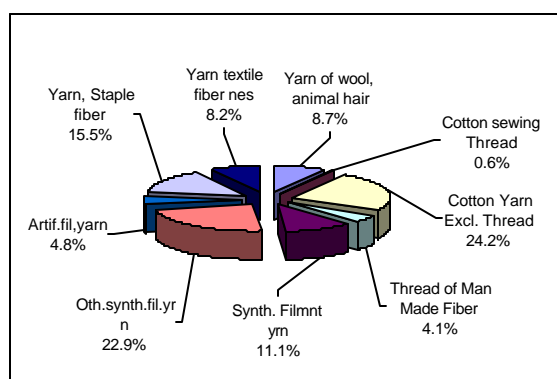
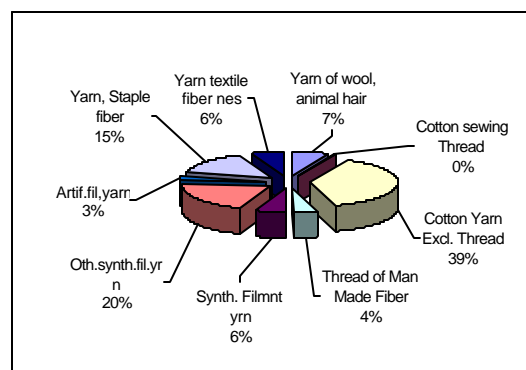
Uptil this point all the analysis of yarn's international trade has been done on total yarn exports which included all types of yarns which is represented by SITC code 651.

Table 3.13.1 : SITC Codes

SITC	Description
6511	Yarn of wool, animal hair
6512	Cotton Sewing Thread
6513	Cotton Yarn excluding thread
6514	Thread of man made Fiber
6515	Synthetic Filament Yarn
6516	Other Synthetic Filament Yarn
6517	Artificial Filament Yarn NES
6518	Yarn Staple Fiber, NES
6519	Yarn Textile Fibers, NES

It is important to look into different categories individually so that more clear analysis can be done. Yarn is further sub-divided into different products which is represented by four digit level SITC codes.

The split of world and Asian yarn exports at four digit SITC level in 1997 is shown in & Figure 3.13.2

Figure 3.13.1: Global Yarn Exports Breakup-1997**Figure 3.13.2: Asia Yarn Exports Breakup-1997**

In both the global and the Asian scene of yarn exports, category 6513 (cotton yarn excluding cotton thread) is the largest category. However, its share in the total pie is larger in Asia (39%) compared to that in the world (24%). The reason is that three of the four largest cotton producing countries are located in Asia. Category 6516 (other synthetic filament yarn) is the second largest category that has 20% share of the total global yarn exports and 20% share in total yarn exports from Asia.

Looking from a broader perspective, of the total global yarn exports in 1997, cotton and related fibres account only for 20%, other natural fibres account for 17% and the rest of 63% is accounted by manmade fibres. Comparing these figures with the similar figures of 1993, a shift is observed. At that time, the share of cotton was 23%, that of other natural fibres was 19% and for MMF yarn exports it was 58% of the total global yarn exports.

The global and Asian export trends of different yarn products from 1993 to 1997 are shown in **Figure 3.13.3 & Figure 3.13.4**. On an overall basis, cotton based categories grew at an average rate of 6.2%, MMF at 12% and other fibres at 6.4% per annum. Growth rate of MMF yarns has been double of that of cotton-based yarns. The growth of cotton-based yarns has been lower even compared to that of yarns of other natural fibres.

The above analysis clearly shows the importance of manmade fibres in today’s textile world. The textile industry of today cannot grow just by limiting itself to cotton-based products. To keep a visible presence in the international textile scene, a country has to move towards decreasing its dependence on cotton and moving towards MMF.

Figure 3.13.3: Global Yarn Export Trends

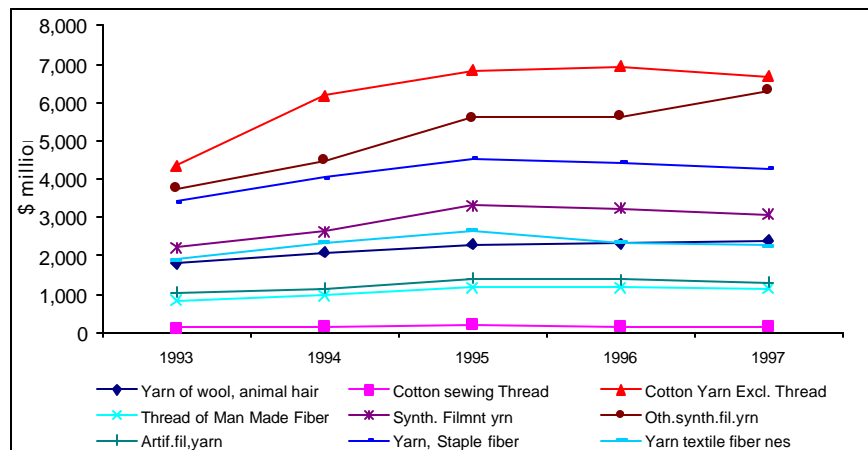
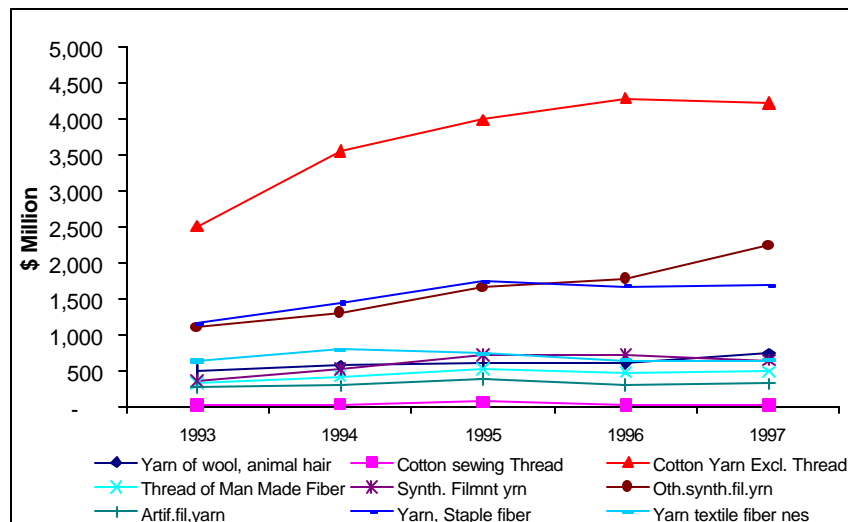


Figure 3.13.4: Asian Yarn Export Trends



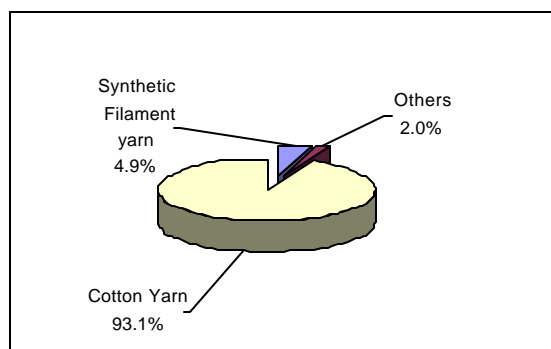
Looking into the individual categories, world’s average growth rate from 1993 to 1997 has been 5% for cotton yarn (SITC 6513) and 3% for other synthetic filament yarn (SITC 6516). Synthetic filament yarn

(SITC 6515) has grown at highest average growth rate of 11% amongst all the yarn categories. Exports from Asia are growing at a higher rate compared to the total global growth rate.

3.13.4. Pakistan's Yarn Export Mix

The mix of Pakistan's yarn exports in 1997 is shown in **Figure 3.13.1**.

Figure 3.13.1: Split of Pakistan's Yarn Exports-1997



93% of Pakistan's yarn exports comprise of cotton yarn. Synthetic filament yarn accounts for another 5% while all the other categories account for only 2%. As discussed earlier, share of cotton yarn in the total exports of yarn is 20% in world and 39% in the Asian exports. It means that Pakistan yarn industry is concentrating only on one fourth of the total pie of world yarn exports.

Cotton is an agro-based product which is very much dependent on natural factors. This brings a lot of uncertainty for a yarn manufacturing industry that is heavily dependent on cotton crop. Pakistani spinning industry has suffered in the past due to this heavy reliance on cotton. Increased share of MMF-based yarn in the total production mix of the industry will dampen the effect of inherent uncertainty of the cotton crop. This argument does not in any way mean to undermine the importance of cotton crop for Pakistan. Indigenous cotton is a competitive edge of Pakistan and it should remain so. Important point is just to diversify the product mix so as to reduce the risk for the industry.

3.13.5. Current Performance of Pakistan in Yarn

Exports of Pakistan in all categories of yarn for the year 1998-99 are shown in **Table 3.13.1**.

Table 3.13.1 : Exports of Pakistan of yarn for the year 1998-99

Category	Description	Quantity (kg)	Value '000' Rs	Value '000' \$
6511	Wool, animal hair yarn	16,522	3,808	83
6512	Cotton Sewing Thread	314,297	76,234	1,657
6513	Cotton Yarn	421,481,085	47,420,825	1,030,888
6514	Sewing Thread MMF	13,668	3,025	66
6515	Synthetic Filament Yarn Texture	17,413,569	1,696,922	36,890
6516	Yarn of Synthetic Filament	1,996	239	5
6517	Artificial Filament Yarn	5,500	617	13
6518	Staple Fibre Yarn	17,517,845	1,604,266	34,875
6519	Textile Fibre Yarn	59,675	5,694	124
Total		456,824,157	50,811,630	1,104,601

Converted @ 46 PKR/USD

Source: Federal Bureau of statistics

Cotton yarn is the largest category in exports of yarn from Pakistan, accounting for 92% of the total quantity and 93% of the total value of yarn exports. Figure 3.13.1 & Figure 3.13.2

Figure 3.13.1: Pakistan's Yarn Exports in 1998-99 (kg. Of Yarn)

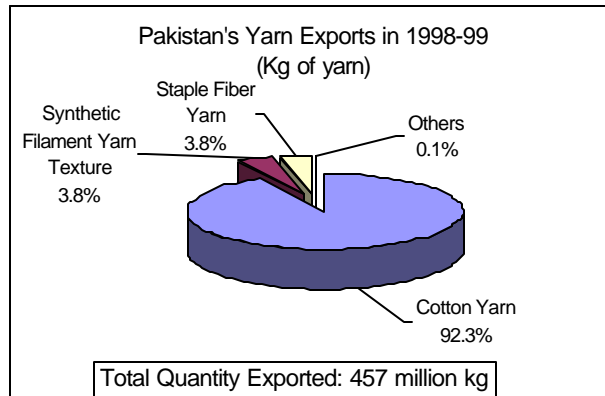
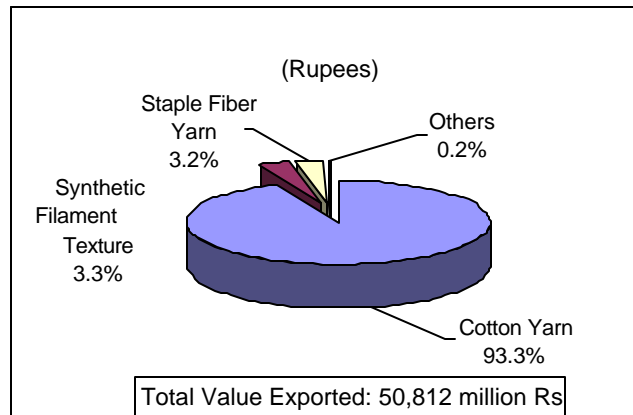


Figure 3.13.2: Pakistan's Yarn Exports in 1998-99 (Million Rs.)

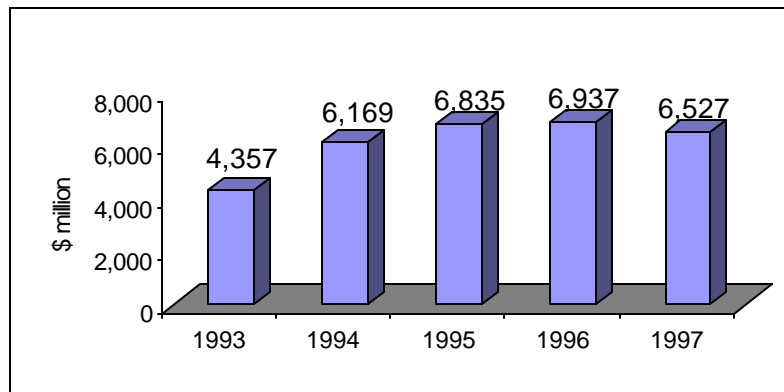


There has been no change in the share of cotton yarn 1997 to 1999 but the share of synthetic filament yarn has decreased from 4.9% to 3.3%. The share has been taken by staple fibre yarn that constitutes 3.2% of the total value of the yarn exports and 3.8% of the total quantity of yarn exported.

3.14. Cotton Yarn (SITC 6513)

Since Pakistan's is actively present in only one segment of the market, so it is necessary to look into the category of cotton yarn. Total export market for cotton yarn was \$6.5 billion in 1997. Average growth in the exports of this product has been 12% per annum.

Figure 3.14.1: Global Cotton Yarn Exports



3.14.1. Pakistan's Exports of Cotton Yarn (SITC 6513)

For the purpose of making it easier to understand, the category definitions at seven digit SITC level have been simplified. The definition of codes only show whether the yarn is carded or combed and does not show any other details.

Looking from an overall perspective, uncombed cotton yarn constitutes the major portion of the exports. In 1998-99, 86% of the total export value of cotton yarn was accounted by uncombed yarn. Combed yarn forms 7% of the total cotton yarn exports. Looking in further detail into individual categories at seven-digit SITC level, it is seen that 64% of the total quantity of yarn is exported under one category, which is SITC 6513302. It represents uncombed cotton yarn. Second category that accounts for about 7% of the total quantity and value is SITC 6513303. This is also the category of uncombed yarn. This clearly indicates that not only are the exports of Pakistani yarn concentrated in low counts, but within those counts, major share is taken by the low value-added yarns, since uncombed (carded) yarn is low value-added compared to the combed yarn.

The downward trend that was seen during the period 1996-97 is continued. During two years from 1997 to 1999, there has been a decrease of 5% in value and 9% in quantity terms. A higher decrease in quantity compared to value is an indication that the competitors are attacking the lower market segments of the Pakistani yarn.

Table 3.14.1: Pakistan's Exports of Cotton Yarn (SITC 6513)

SITC	Product	1998-99			1997-98		
		Quantity kg	Value '000' Rs	Value \$ '000'	Quantity Kg	Value '000' Rs	Value \$ '000'
Total exports in SITC 6513		421,481,085	47,420,825	1,030,888	461,918,839	49,888,080	1,084,523
6513100	Yarn 85% Or More	28,303,642	3,040,484	66,097	23,040,704	2,358,333	51,268
6513200	Other, Cotton Yarn	700,854	87,529	1,903	935,803	102,974	2,239
6513301	Cotton Yarn Uncombed	11,337,422	1,174,623	25,535	14,671,397	1,388,154	30,177
6513302	Cotton Yarn Uncombed	269,237,632	29,465,600	640,557	332,015,473	34,915,369	759,030
6513303	Cotton Yarn Uncombed	28,149,022	3,351,719	72,863	27,111,765	3,305,476	71,858
6513304	Cotton Yarn Uncombed	15,686,727	2,071,674	45,036	20,768,564	2,723,157	59,199
6513305	Cotton Yarn Uncombed	1,708,464	222,894	4,846	138,612	13,547	295
6513311	Cotton Yarn Combed	216,271	22,408	487	54,884	5,850	127
6513312	Cotton Yarn Combed	18,166,281	2,148,881	46,715	1,047,412	130,367	2,834
6513313	Cotton Yarn Combed	5,076,343	610,297	13,267	446,919	55,319	1,203
6513314	Cotton Yarn Combed	2,488,570	329,688	7,167	99,332	12,660	275
6513315	Cotton Yarn Combed	108,606	14,237	310	30,843	3,754	82
6513321	Cotton Yarn Uncombed	201,330	23,883	519	1,305,683	144,229	3,135
6513322	Cotton Yarn Uncombed	21,412,791	2,582,054	56,132	23,450,294	2,730,619	59,361
6513323	Cotton Yarn Uncombed	6,189,596	806,620	17,535	5,271,695	705,225	15,331
6513324	Cotton Yarn Uncombed	1,288,267	179,979	3,913	1,884,105	260,563	5,664
6513325	Cotton Yarn Uncombed	335,742	49,773	1,082	6,960	1,047	23
6513331	Cotton Yarn Combed	75,339	8,429	183	0	0	0
6513332	Cotton Yarn Combed	882,843	105,681	2,297	0	0	0
6513333	Cotton Yarn Combed	44,531	6,190	135	0	0	0
6513334	Cotton Yarn Combed	84,023	12,401	270	0	0	0
6513401	Cotton Yarn Uncombed	9,719,279	1,095,709	23,820	9,614,581	1,028,933	22,368
6513404	Cotton Yarn Uncombed			0	16,329	1,641	36
6513412	Cotton Yarn Combed	17,236	1,899	41	0	0	0
6513413	Cotton Yarn Combed	14,288	2,011	44	0	0	0
6513422	Cotton Yarn Uncombed			0	7,484	863	19
6513432	Cotton Yarn Combed	15,914	3,789	82	0	0	0
6513435	Cotton Yarn Combed	20,072	2,373	52	0	0	0

Source: Federal Bureau of statistics

Table 3.14.2: Exports SITC 6512

SITC	Product	1998-99			1997-98		
		Quantity kg	Value '000' Rs	Value '000' \$	Quantity kg	Value '000' Rs	Value '000' \$
Total Exports in SITC 6512		314,297	76,234	1,657	335,878	78,943	1,716
6512100	Cotton Thread Not For R Sale	14,800	2,846	62	0	0	0
6512201	Cotton Thread, Sewing	268,718	66,292	1,441	330,728	78,068	1,697
6512202	Cotton Thread Embroidery	9,693	2,543	55	0	0	0
6512209	Cotton Thread, Bleached nes	9,850	2,609	57	5,100	864	19
6512219	Cotton Thread , Unbleached	11,236	1,944	42	50	11	0

Source: Federal Bureau of statistics

3.14.2. Major Exporters of Cotton Yarn

& Figure 3.14.2 show the five year trends of the top exporters of cotton yarn.

Figure 3.14.1: Major World Exporters of Cotton Yarn-SITC 6513

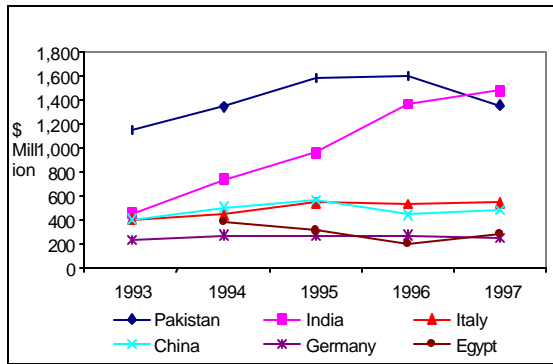
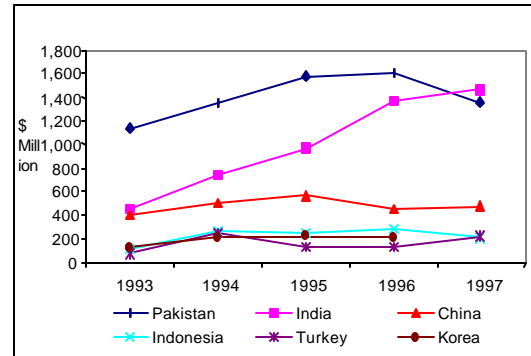


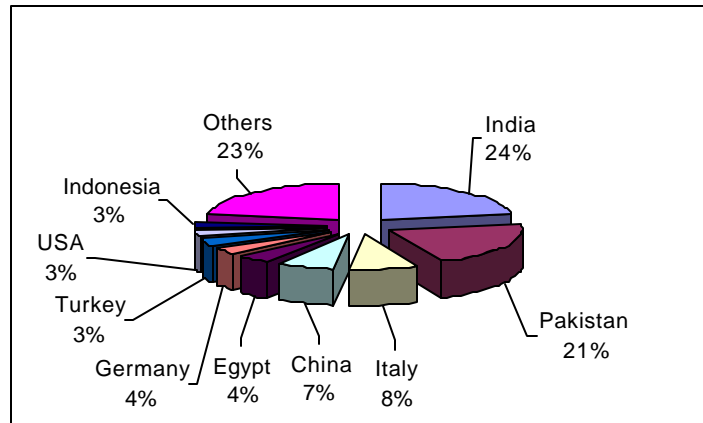
Figure 3.14.2: Major Asian Exporters of Cotton Yarn-SITC 6513



Pakistan used to be the biggest cotton yarn exporter in the world till 1996. In 1997, India has taken over Pakistan. In fact India can only be classified as the real competitor of Pakistan as exports of all the other competitors are relatively smaller. Average growth rate of Pakistan has been 5.3% whereas the same for India has been 35%, which is about seven times higher than that of Pakistan. On a global level Italy is the third largest exporter of cotton yarn while China is the third largest exporter of cotton yarn in Asia, with exports of \$400 million in 1997. Pakistan’s exports of cotton yarn showed remarkable growth during the period from 1993 to 1995. In 1996 the exports retained the previous level and then declined in 1997.

Market shares of major exporters of cotton yarn show India and Pakistan as the two leading players. India had 24% and Pakistan 21% of the total world exports.

Figure 3.14.3: Global Exporters of Cotton Yarn-1997



China and USA, although being two of the largest cotton producers, are relatively smaller players in yarn exports. The reason is that most of the yarn produced by China and USA is consumed locally, by their downstream industries and only a small surplus is exported.

3.14.3. Major Importers of Cotton Yarn

Major Importers of cotton yarn and five-year trends of imports are shown in

Figure 3.14.1 & Figure 3.14.2. About 60% of the total imports go to six countries. Three of those countries are Asian accounting for 42% share and the next three largest importers are European (19%).

Figure 3.14.1: Major Importers of Cotton Yarn

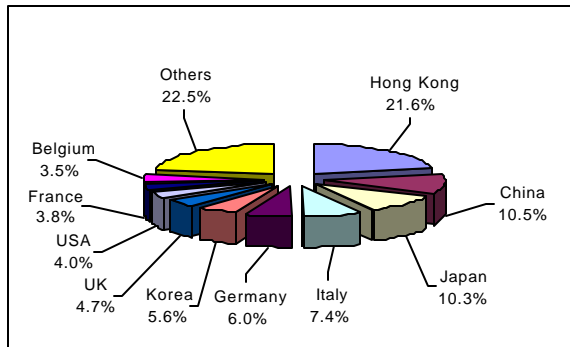
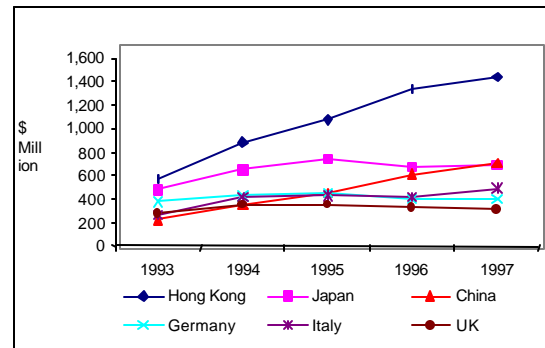


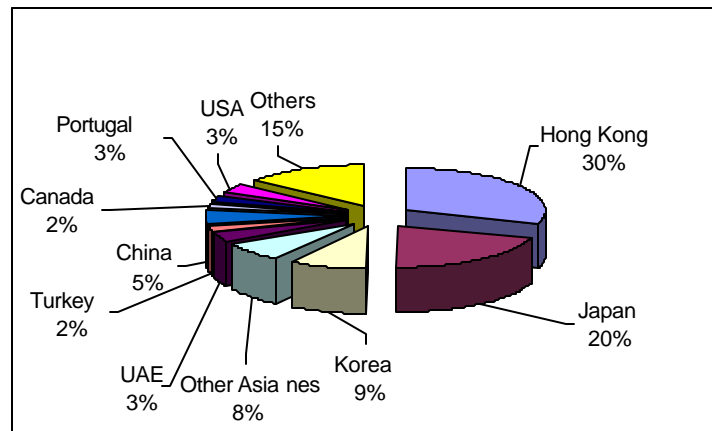
Figure 3.14.2: Major Importers of Cotton Yarn



Hong Kong is the largest importer of cotton yarn with 21.6% of the total world imports of cotton yarn going to Hong Kong at an average growth rate of 27.2% during five years from 1993 to 1997. In 1997, total quantity of yarn imported into Hong Kong was 429 million kg amounting to \$1.4 billion. The yarn is imported into Hong Kong for the purpose of re-exporting, as there is no weaving or knitting industry in Hong Kong of such a magnitude to consume these huge quantities of yarn. Most of the yarn from Hong Kong is exported to China.

China is the second largest importer of cotton yarn having 10.3% share. Average growth rate of China has been 34.5% which is higher than that of Hong Kong. Total yarn imported by China in 1997 was 365 million kg having a value of \$706 million. Japan is the third largest importer with imports of 202 million kg and \$690 million.

Figure 3.14.3: Pakistan Export Markets SITC 6513 - 1997



China, Italy, Germany and USA are the countries which are in the list of the top importers as well as in the list of top exporters.

Pakistani cotton yarn is sold mostly in the Far Eastern markets. Hong Kong is Pakistan's largest trading partner in this category with 30% share. Japan is second with 20% share and Korea third with 9% share of the total yarn exports from Pakistan. It means that 59% of Pakistan's cotton yarn was to three Far Eastern countries. Comparing Pakistan's trading partners with major global importers of cotton yarn, Italy, Germany and UK are the major European importers but Pakistan's exports to these countries are very small. Only 2% of the Pakistani exports of cotton yarn are going to these three countries. Pakistan should diversify its export market mix of cotton yarn to include European countries. Selling to single region makes the exports very vulnerable as any economic changes in that particular region can affect the exports very strongly.

Pakistan's exports of yarn to different buying countries are shown in Table 3.14.1

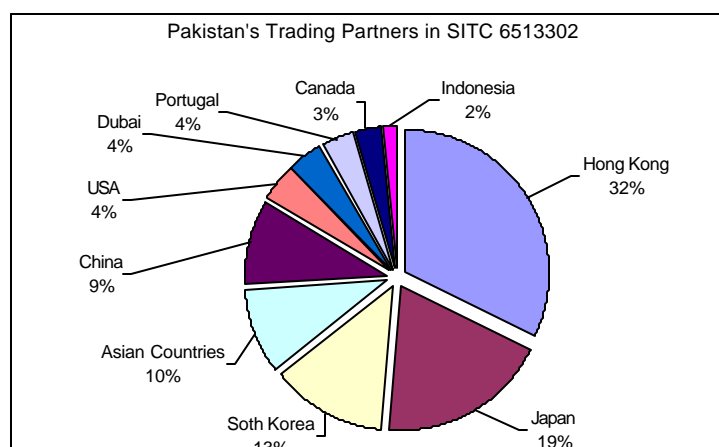
Average growth rates for exports to Hong Kong, Japan and Korea have been 27.5%, -1.1% and 7.9% respectively. Exports to USA and China have grown at relatively higher rates but the dollar values of exports are much lower than that of the three main trading partners.

Table 3.14.1: PAKISTAN EXPORTS COTTON YARN (SITC-6513) (\$ Million)

	1993	1994	1995	1996	1997	Average Growth Rate
Hong Kong	181	332	375	489	407	27.5%
Japan	305	358	377	372	276	-1.1%
Korea	102	123	179	156	122	7.9%
Other Asia nes	134	143	153	137	102	-5.6%
UAE	27	44	51	55	47	18.0%
Turkey	70	20	74	29	23	29.3%
China	2	4	25	45	75	192.9%
Canada	43	33	23	19	22	-13.8%
Portugal	15	23	26	35	38	27.4%
USA	4	5	14	29	47	93.6%
Others	262	261	290	234	197	-6.1%
Total World	1,144	1,344	1,585	1,600	1,357	5.3%

At the seven-digit level, SITC 6513302 represents one particular type of uncombed cotton yarn and is the largest category in Pakistan's exports of cotton yarn.

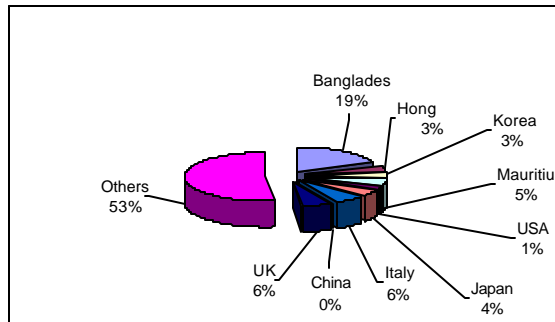
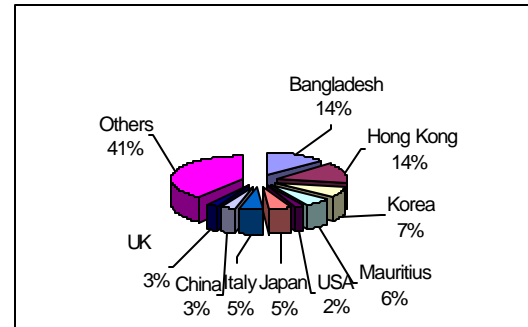
Figure 3.14.4: Pakistan's Trading Partners in SITC 6513302



Composition of exports in this category is shown in **Figure 3.14.4**. The split is almost similar to that for the total cotton yarn i.e. Hong Kong, Japan and Korea are the three largest players. Total number of importers from Pakistan in this category in 1998-99 was eighty two.

3.14.4. India's Trading Partners

India's yarn exports capture a more diversified world market. In the case of Pakistan, 85% of the total exports in 1997 came from only ten countries with 'others' category accounting for only 15%. For India, 'others' category accounted for 41%. Unlike Pakistan, Bangladesh is one of the major trading partners of India, accounting for 14% of the total yarn exports from India. Looking at the comparative figures of India's trading partners in 1993 and 1997, a shift can be observed. India's exports to Hong Kong, Korea and Japan have increased from 3%, 3% and 4% in 1993 to 14%, 7% and 5% in 1997 respectively.

Figure 3.14.1: India's Trading Partners in Yarn Exports-1993**Figure 3.14.2: India's Trading Partner's in Yarn Exports-1997**

As already mentioned, these three countries are the major buyers of Pakistani yarn. This means that India has directly focused its strategy towards exporting yarn to major trading partners of Pakistan.

The trend is further verified by looking at the imports of the three leading importers. Table 3.14.1 show the shares of India and Pakistan in total yarn imports of Hong Kong, Korea and Japan.

Table 3.14.1: Hong Kong's Yarn Imports

	1993		1997	
	\$ Million	% share	\$ Million	% share
From Pakistan	182	31.8%	437	30.1%
From India	20	3.5%	145	19.2%

In the Hong Kong market, India has greatly increased its share from 3.5% to 19.2%. Market share of Pakistan has dropped slightly from 31.8% to 30.1%. Compounded annual growth rate of Pakistan has been 19% whereas India has grown at 48.6% in the same time period.

Table 3.14.2: Korea's Yarn Imports

	1993		1996	
	\$ Million	% Share	\$ Million	% Share
From Pakistan	106	52.2%	163	43.5%
From India	19	9.3%	137	36.6%

In the Korean market also, India has shown better performance than Pakistan and has increased its market share. Compounded annual growth rates have been 8.9% and 48.4% for Pakistan and India respectively.

Table 3.14.3: Japan's Yarn Imports

	1993		1997	
	\$ Million	% Share	\$ Million	% Share
From Pakistan	324	67.7%	303	43.8%
From India	23	4.8%	108	14.7%

Trends similar to Hong Kong and Korean markets exist for the Japanese market also. Pakistan has not only lost market share but the dollar exports to Japan from Pakistan have also decreased (-1.4%). India has increased its market share and has grown at compounded annual rate of 48.4%.

Along with Pakistan and India, China is the other leading exporter of cotton yarn. Looking at the major exporters into Hong Kong, Japan and Korea, it can be seen that China has a substantial share in these markets. In Hong Kong's imports, China has a share of 31%, which is the highest amongst all the competitors. In Korean and Japanese markets China claims 9% and 13% of the total imports respectively. In the Japanese market, Indonesia is another major exporter of cotton yarn having 16% share in 1997 but in Hong Kong and Korean markets, it has relatively smaller shares.

Together, Pakistan, India and China constitute 80%,89% and 72% of the Hong Kong, Korean and Japanese cotton yarn markets respectively.

Figure 3.14.3: Imports of Yarn Hong Kong

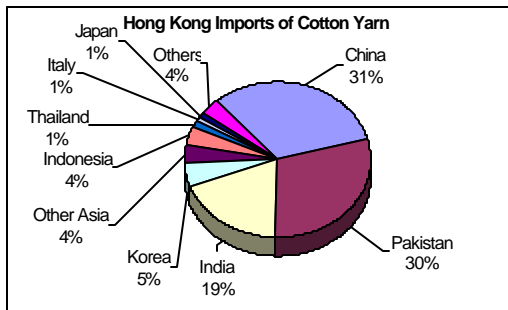


Figure 3.14.4: Korean Imports of Yarn

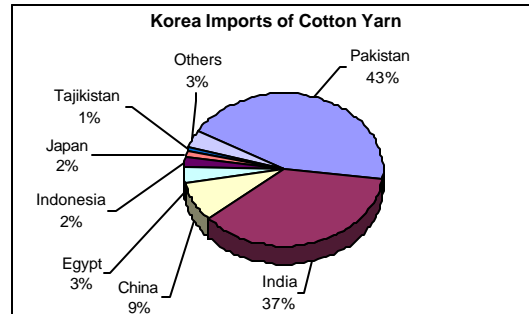
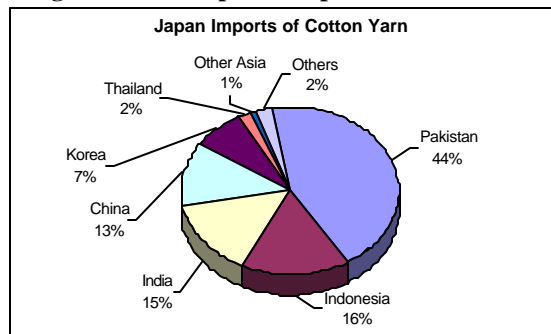


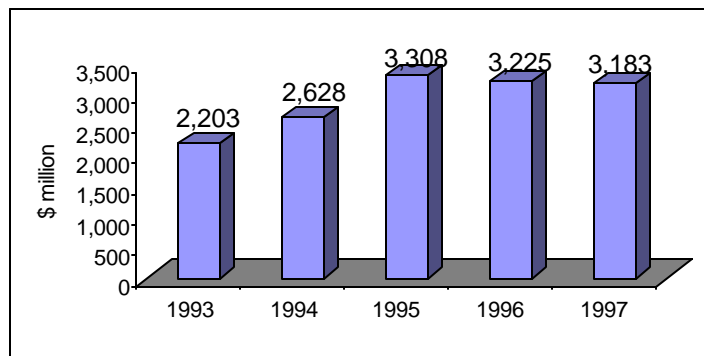
Figure 3.14.5: Japan's Import of Cotton Yarn



3.15. Synthetic Filament Yarn (SITC 6515)

Synthetic Filament yarn is the other product in which Pakistan has some exports. Export growth of this product is shown in Figure 3.15.1.

Figure 3.15.1: Global Synthetic Filament Yarn Exports

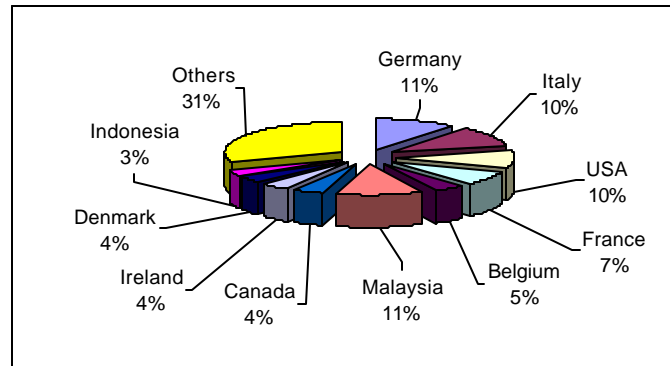


Total world exports in this category were \$3.2 billion that amounted to 12% of the total global yarn exports of all the categories. Average growth rate of this category has been 10% from 1993 to 1997.

3.15.1. Major Exporters of Synthetic Filament Yarn

Major exporters of synthetic filament yarn are shown in Figure 3.15.1. Malaysia is the largest exporter of synthetic filament yarn in the world. Its exports have grown from \$84 million to \$375 million in five years at a phenomenal growth rate of 48% per annum.

Figure 3.15.1: Major Exporters of Synthetic Filament Yarn



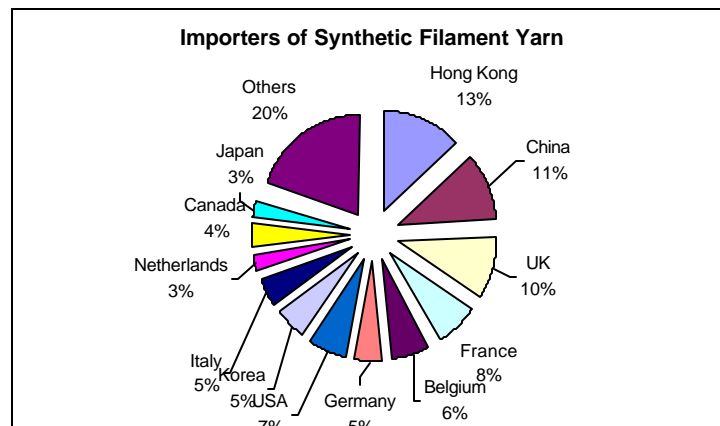
Market share of Malaysia in 1997 was 11%. Germany is the second largest exporter but it seems to be getting out since it has a negative growth rate of 2.1%. Italy and USA are the two other major players. Italy also seems to pull out. Its growth rate has been less than 1% during five years. USA exported synthetic filament yarn of worth \$319 million in 1997 and showed a decent growth rate of 10% per annum. Indonesia is the other country that has shown very high growth rate. It has grown from \$48 million to \$98 million from 1993 to 1997. At this rate of growth, Indonesia will become even larger exporter in the coming years.

Pakistan ranked 14th in the list of exporters. Pakistan's total exports of synthetic filament yarn were \$72 million which translated into 2.2% share of the global exports.

3.15.2. Major Importers of Synthetic Filament Yarn

Figure --- shows the major importers of synthetic filament yarn. Although the top two importers i.e. Hong Kong and China belong to Asia, but the majority of the imports went to Europe and USA.

Figure 3.15.1: Importers of Synthetic Filament Yarn



Imports to Hong Kong were \$573 million that accounted for 13% of the total imports. Average growth rate for Hong Kong was 16%. Imports to China and UK grew at the rates of 15.8% and 15.5% respectively. Largest

import growth rate was recorded for Italy, which was 27.6%. It is interesting to note that seven of the top importers UK, France, Belgium, Germany, USA, Italy and Canada are also amongst the top ten major exporters.

3.15.3. Pakistan's Current Position in exports of MMF Yarn

In 1998-99, total exports from Pakistan in this category were Rs 1.6 billion (\$35 billion). Total quantity exported was 17.4 million-kg.

Table 3.15.1: Pakistan's Exports-Synthetic Filament Yarn (SITC 6515)

SITC	Description	Quantity (kg)	Value ('000' Rs)	Rs/kg
6515101	Filament Yarn Nylon Polyamide<50 D	18,000	1,513	84.1
6515102	Filament Yarn Nylon Polyamide >50 D	4,000	726	181.5
6515200	Filament Yarn of Polyesters	17,355,063	1,691,220	97.4
6515909	Other Synthetic Filament Yarn nes	36,506	3,463	94.9
	Total	17,413,569	1,696,922	

Source: Federal Bureau of Statistics

Of the total exports in this category, 99.7% was the filament yarn of Polyester and the rest were nylons and other synthetic filament yarns. Highest unit price of Rs 181 per kg (\$3.93/kg) was fetched by nylon yarn. Polyester yarn was sold for Rs 97 per kg. (\$2.1/kg)

Table 3.15.2: Pakistan's Exports-Staple Fibre Yarn (SITC 6518)

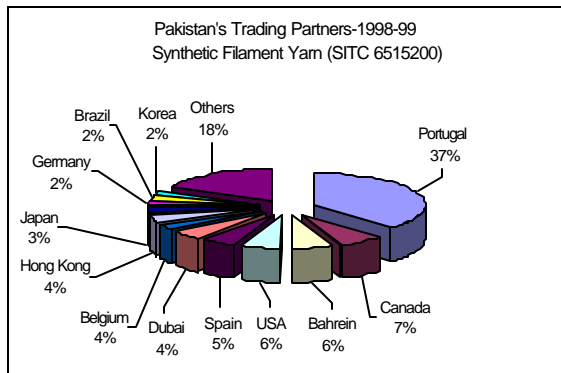
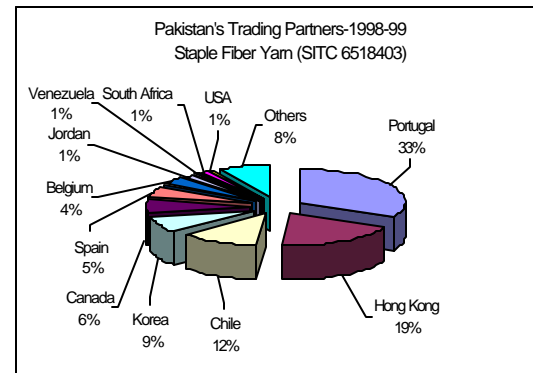
SITC	Description	Quantity (kg)	Value ('000' Rs)	Rs/kg
6518100	Yarn>85% Syn Staple Fibre For Sale	158,078	11,683	73.9
6518200	Yarn> 85% Syn Staple Fibre Not Sale	5,000	530	106.0
6518300	Yarn<85% Syn Staple Fibre For Sale	14,968	1,554	103.8
6518402	Syn Yarn With Wool Fine Hair	34,473	3,381	98.1
6518403	Syn Yarn With Cotton	17,305,326	1,587,118	91.7
	Total	17,517,845	1,604,266	91.6

Source: Federal Bureau of Statistics

In the category of yarn of staple fibres, total exports of Pakistan were Rs 1.6 billion for a quantity of 17.5 million kg. 99% of the exports in this category fell under category 6518403 that is synthetic yarn with cotton.

3.15.4. Pakistan's Trading Partners in MMF Yarn

Pakistan's trading partners in MMF yarn for the two main categories (6515200 & 6518403) are shown in Figure 3.15.1 & Figure 3.15.2.

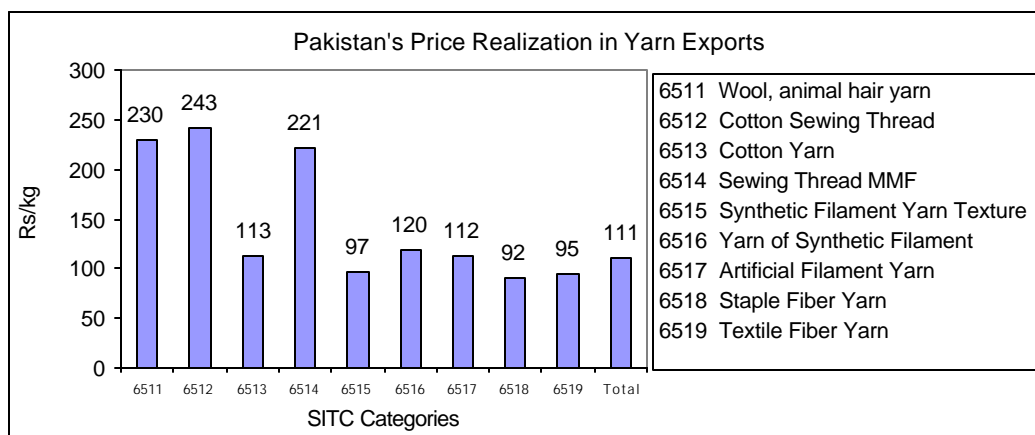
Figure 3.15.1: Pakistan's Trading Partners in Synthetic Filament Yarn**Figure 3.15.2: Pakistan's Trading Partners in Staple Fibre Yarn**

In 1998-99, Pakistan exported synthetic filament yarn to fifty-three countries and staple fibre yarn to forty-two countries. Considering the low volumes of Pakistani exports in these categories, these numbers seem pretty high. This means that Pakistan has a broad customer based in MMF yarn.

In both of these categories, Pakistan's exports are going into non-traditional markets with Portugal being the largest buyer. It has 37% and 33% shares of the total exports in categories 6515200 and 6518403 respectively. In synthetic filament yarn, Canada and Bahrain are the second and third largest importers with 7% and 6% shares respectively. In staple fibre yarn, Hong Kong is the second largest buyer with 19% share. Chile is another non-traditional buyer of Pakistani staple fibre yarn, which received 12% of the total Pakistani exports in this category.

3.16. Pakistan's Unit Price Realisation in 1998-99

Rupees realises per kilogram of yarn exported from Pakistan in different types of yarn products is shown in Figure 3.16.1.

Figure 3.16.1: Pakistan's Price Realisation in Yarn Exports

Sewing threads of cotton and MMF are the two products that are more value added and have fetched higher prices. Other category selling at higher price is the woolen yarn. Pakistan's major category of cotton yarn is fetching 113 Rs/kg (\$2.45/kg).

Table 3.16.1: Pakistan's Unit Price Realisation of SITC 6513302 in Different Markets (1998-99)

Country	\$/kg	Country	\$/kg
Hong Kong	2.43	USA	2.57
Japan	2.30	Dubai	2.21
South Korea	2.42	Portugal	2.37
Asian Countries	2.28	Canada	2.53
China	2.31	Indonesia	2.27

Source: ITC/UNSD

Average price in this category is \$2.38 per kg. USA and Canada are the two markets in which price realisation is better compared to others markets.

Although average unit price of Pakistani cotton yarn is low but there are many markets in which the realised price is much higher than the average. Ten of such countries are listed in Table 3.16.2.

Table 3.16.2: High Price Fetching Markets for Pakistani Yarn

Country	Quantity (kg)	Value (\$)	\$/kg
Nigeria	14,383	48,696	3.39
Lithuania	105,120	350,304	3.33
Brunei	131,236	434,457	3.31
Yugoslavia	6,904	21,826	3.16
Dominican Republic	283,261	873,456	3.08
Mexico	43,874	134,869.6	3.07
Irish Republic	44,907	137,826.1	3.07
Romania	14,968	45,478.26	3.04
Tanzania	42,386	127,391.3	3.01

Source: ITC/UNSD

In 1998-99, Pakistan has achieved highest unit price for cotton yarn in the Nigerian market. 3.39 per kg is 42% higher than the average unit price of \$2.38 per kg. All the other countries in the list are also buying Pakistani cotton yarn at price more than \$3 per kg. The quantities exported to these countries form a very small percentage of the total exports so their impact on the average price is small.

All the countries in which Pakistan is fetching a higher price can be categorised as developing countries. Most likely reason for this is that developed countries like Hong Kong, Japan and Korea are importing standardised products from Pakistan (mostly coarse counts) since they manufacture high value added yarns themselves and buy cheaper yarns from other supplying countries. For developing countries, however, Pakistan is in a position to fulfil the requirements of any specialised or high value added yarns that ultimately results in higher unit price realisation in those markets.

3.16.1. Unit Price Realisation Comparison with Competing Countries

Average unit price realisation is a good yardstick for measuring the performance of any exporting country. The comparison of major yarn exporting countries in different types of yarns is shown in Table 3.16.1.

Table 3.16.1: Unit Price Realisation of Major Yarn Exporters (\$/kg)-1997

Categories	Japan	Hong Kong	China	India (1996)	Korea (1996)	USA	Italy	Pak
Wool, Animal hair yarn (6511)	26.0	9.5	8.14	10.14	11.67	8.0	16.03	NA
Cotton Sewing Thread (6512)	18.61	5.5	3.53	5.01	NA	8.50	10.00	5.2
Cotton Yarn (6513)	9.96	2.9	3.16	3.11	4.83	3.29	5.38	2.7
Sewing Thread MMF (6514)	19.54	5.9	3.19	6.15	8.90	8.64	9.75	NA
Synthetic Filament Yarn Texture (6515)	8.75	2.2	1.79	2.39	2.91	3.16	3.63	2.5
Synthetic Filament Yarn (6516)	6.05	5.5	1.82	2.89	2.55	4.24	4.47	2.2
Artificial Filament Yarn (6517)	7.24	5.5	4.08	3.29	12.00	NA	13.83	2.8
Staple Fibre Yarn (6518)	10.69	4.7	2.78	3.0	4.41	6.53	5.80	2.4
Textile Fibre Yarn (6519)	3.41	7.9	5.58	NA	9.17	2.16	3.46	1.7

Source: ITC/UNSD

Amongst all the yarn categories, sewing threads of cotton and MMF are the two categories that fetch highest dollar values per kg. After the threads, highest unit price is that of category 6517, Artificial Filament Yarn which is followed by cotton yarn.

Average unit prices of Pakistani yarn in almost all the categories is lowest among those of its competitors. Comparing the prices of cotton yarn, Pakistan's unit price is \$2.7/kg. Two major reasons can be attributed to this fact.

3.17. Use of Contaminated Cotton

First is the use of contaminated cotton by the spinners. Cotton received by the spinners for manufacturing yarn contains contamination. Contaminating agents are sand, dust, leaves, immature/dry bolls. More serious contaminating agents include human hair, jute fibres, poultry feathers, and pieces of threads and polyethylene. In Pakistan, cotton is handpicked so contamination content should be minimum, but contrary to that, the amount of contamination in the form of non-lint contents is very high. Yarn made from contaminated cotton leads to defective fabrics. The defects become very prominent after the fabric is finished. This makes the fabric unfit to be used for high value-added garments and made-ups.

Addition of contamination starts right from the fields. Lack of awareness to the farmers and the pickers constitute the major reasons for cotton contamination. Lot of foreign material is added in cotton during picking in the fields. Its percentage is further increased during transportation and storage. In the next stage, Ginning should be able to remove this contamination but the use of pre-cleaners and lint cleaners, which are the main operations for contamination removal, is very limited. The result is that as the cotton reaches a spinning mill, it contains a high percentage of contamination which may be as high as 7% by weight. Some of the spinning mills do have an added process for removal of contamination. Prior to blow room, the cotton flows on a conveyor belt and the persons standing on the sides handpick any non lint material that they are able to detect. This procedure does remove major portion of contamination but quite a substantial portion also escapes from being picked. Some of the spinning mills also use Contamination detector that removes contamination in a more efficient manner. The process of contamination removal increases the overall cost of yarn thereby adversely affecting the industry's competitive edge.

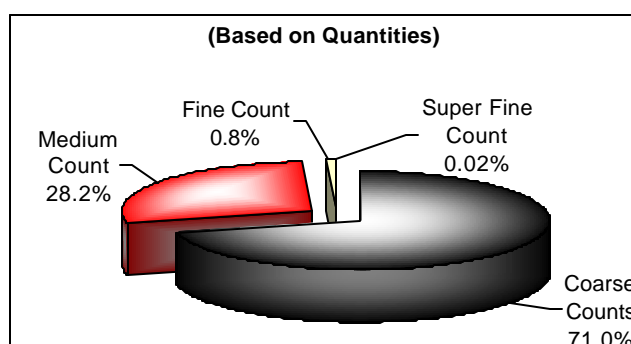
The process of obtaining contamination-free cotton at the door of spinning mill should start right from the field. Proper awareness should be created amongst farmers and pickers for using the proper techniques of picking. Storage and transportation should be done according to the standard conditions. Cotton standards

should be strictly implemented and ginners should be paid due premium for supplying contamination free cotton to the spinning industry. The provision of contamination free cotton will result not only in decreasing the raw material wastages for the spinners but also help them achieving a better unit price for their product in the local and international markets.

3.18. Product Mix of Pakistan's Yarn Exports

Second reason for low price realisation is Pakistan's export product mix. As discussed earlier, Pakistan's production mix is highly biased towards coarse and medium counts. About 70% of the total yarn production is of these types of products. This percentage becomes even higher in exports. 99% of the exported Pakistan's yarn falls under coarse and medium count categories which fetch a lower unit price in the international markets compared to fine and superfine counts.

Figure 3.18.1: Pakistan Export of Yarn Countwise



It is not only that Pakistani yarn manufacturer manufactures low counts, but within a low count he further manufactures the low value added yarn. The percentage of combed yarn in the total exports of cotton is very small compared to that for carded yarn. The manufacturing of combed yarn requires an additional process called combing which adds more value to the yarn. Most of the spinning mills do not use combing process. Carded yarn is widely used by the local weaving and knitting industry and also exported in large quantities. Spinning industry cannot alone be blamed for this attitude. The downstream industries do not create the necessary pull for higher value added yarns because they themselves manufacture low value added products. Similarly, in the export market, Pakistan has developed its identity as a major supplier of carded cotton yarn. There is a need that Pakistani manufacturers should change this perception and gear themselves to meet the demands of the higher value added yarns also.

If we look at the unit prices of yarns other than cotton yarn, Pakistan's unit price is lowest in those categories also. It means that contamination and low counts are not the only reasons for low unit price realisation since these two factors do not apply to MMF yarn.

Another very important factor contributing to low unit value is the bad image of Pakistan as a country in the international markets. Due to low quality perception of the Pakistani products, exporters are unable to get proper price even for a good quality product.

Among the competing countries, Japan has the highest unit prices in most of the categories. In many categories, the price fetched by Japanese yarn is more than 200% higher than the average unit price.

India's prices, though comparable with those of Pakistan's, are still higher. Even in the exports of cotton yarn, which is the strongest category of Pakistan, India is fetching a better price than Pakistan (\$3.16/kg).

3.18.1. Pakistan's Market-wise Unit Price Realisation of Cotton Yarn

Table 3.18.1 shows Pakistan's unit price realisation of cotton yarn in different markets. Pakistan is able to get relatively better prices in American and Far Eastern markets compared to those in other Asian markets.

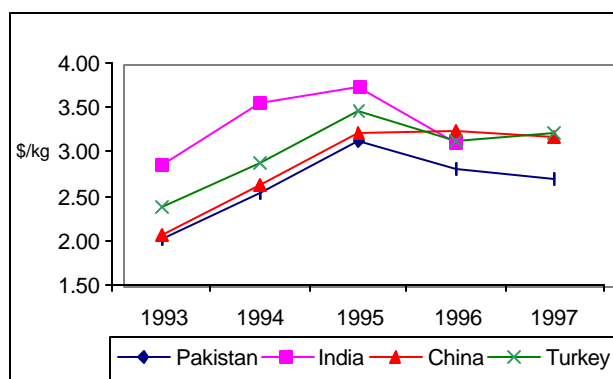
Table 3.18.1: Pakistan's Market-wise Unit Price Realisation of Cotton Yarn

Country	\$/kg	Country	\$/kg
Hong Kong	2.82	Turkey	2.50
Japan	2.62	China	2.57
Korea.	2.64	Canada	2.89
Other Asia nes	2.47	Portugal	2.84
UAE	2.43	USA	2.90

Pakistani yarn is getting highest price of \$2.9/kg in USA while in UAE market it is getting the lowest value of \$2.43/kg.

3.18.2. Yarn Prices Trend

Unit prices of cotton yarn show a declining trend. Prices of all the exporting countries were on an increase till 1995 but declined after that. The reason was the Far Eastern crisis. Since Far Eastern countries are the biggest importers of cotton yarn, so devaluation of their currency resulted in making their imports expensive due to which the exporters were compelled to decrease their prices.

Figure 3.18.1: Cotton Yarn Unit Price Trend

3.18.3. Unit Price Realisation

Unit price realisation of the top importing countries of MMF yarn are shown in **Table 3.18.1**.

Table 3.18.1: Pakistan's Exports Unit Price Comparison of MMF yarn in Different Markets

SITC 6515200	Rs/kg	SITC 6518403	Rs/kg
Average Price	97.4	Average Price	91.7
Portugal	99.5	Portugal	90.7
Canada	96.1	Hong Kong	94.2
Bahrain	86.9	Chile	95.8
USA	104.3	Korea	91.7
Spain	98.8	Canada	90.4
Dubai	88.9	Spain	90.7
Belgium	92.4	Belgium	85.7
Hong Kong	89.3	Jordan	76.9
Japan	104.3	Venezuela	99.6
Germany	101.1	South Africa	78.8
Brazil	92.2	USA	89.0

Average price of synthetic filament yarn is higher than that of yarn of staple fibres. For synthetic filament yarn, USA, Japan and Germany are the markets in which Pakistan is getting a better price.

3.19. Government's interventions

- In order to move the spinning industry in the direction of higher value added yarns, Government should design incentives driven by value addition. Export refinance facility is used by all the yarn exporters irrespective of the yarn count. Export refinance should not be provided to all types of yarns. It should be limited to only yarns of 40 count and above. This will make the spinners looking towards manufacturing higher counts for export purposes. In this manner, a better utilisation of Pakistani cotton can be achieved.
- BMR is an important need of spinning industry. Government should facilitate the availability of credit at easy terms to the industry. Credit for capital investment should be provided by linking it with the export performance of the manufacturer. Incentives in the shape of relief on import duties should be provided on machinery imported for BMR purposes.
- Pakistan's spinning industry is heavily dependent upon local cotton and its performance is directly linked with local cotton production. There is a strong need to weaken this link. Pakistan spinning industry should be de-linked from local cotton by allowing free availability of imported cotton. By allowing duty free imports of cotton, the effect of uncertainty prevailing in the spinning industry due to uncertain cotton produce in the country will be minimised. The spinners will know that they are not limited by the supply of cotton. In case of a bad cotton crop in the country, they can always run their mills on imported cotton. There will be no fear of shortage of cotton that can lead to a crisis situation in the industry.
- Other route of decreasing the reliance on cotton is moving towards manmade fibres. Current spindles utilisation for manmade fibres is very low in Pakistan compared to competitors. Major reason for this is the protected manmade fibres industry. Import duties on manmade fibres makes the raw material expensive for the spinning industry thereby making it non-competitive in yarn export market. Blended yarn sold in the local market at higher prices compared to international prices erodes the competitive edge of weaving industry also. There is a need to rationalise the duty structure on imports of manmade fibre that are produced in Pakistan. The duty should be reduced in a phased manner and ultimately removed completely.
- There are many manmade fibres that are not manufactured in Pakistan. Spinners have to import these fibres to compete internationally. Import duties on such fibres should be removed completely. This will not be a major revenue loss to the Government because such fibres are imported in small quantities. Compared to this revenue loss, anticipated export earnings through these products will be much higher.

APPENDIX

Machine Efficiencies for Different Spinning Processes

Listed below are the efficiencies of different processes of a spinning:

- | | | |
|----|---|--------|
| a. | Blow room / Carding | 88-90% |
| b. | Draw Frames | 80-85% |
| c. | Unilap/Combers | 75-80% |
| d. | Simplex Frames | 80% |
| e. | Ring Spinning Frames (different counts) | |
| | • 10s | 88% |
| | • 16s | 90% |
| | • 20s | 92% |
| | • 30s | 93% |
| | • 40s | 94% |
| | • 60s | 95% |
| | • 80s | 95-96% |
| f. | Auto Coner | 75-80% |

Wastages at Different Stages of Spinning Process

Wastage percentages at different stages of yarn manufacturing process are given below. These are very important in calculating the profits and planning production sequences.

- | | | | |
|----|---------------------------------|----|------|
| a. | Blow room | 6% | |
| | • Bale breaker | 1% | |
| | • Axi Flow | | 1% |
| | • Seam Breaker | | 1% |
| | • D.O.Beater | 1% | |
| | • Crusher Beater | | 1% |
| | • Dust | | 0.5% |
| b. | Carding | 6% | |
| | • Taker-in | 4% | |
| | • Fly dust | 2% | |
| c. | Fluff | 1% | |
| d. | Hard waste | 1% | |
| e. | Miscellaneous at Blow equipment | 3% | |

Appendix: BMR projections for 120 closed spinning units

Table 3.19.1: BMR Projections for 120 Closed Units

S.No.	Year of Start	Year of Close	Number of Spindles	Machine Age (Years)	Years of Operation	Total Used Life as a % of 12 years
	Start	Close	Spindles	Age(yrs)	Oprtn.	Used life
1	1947	1980	43,200	53	33	100.00
2	1947	1995	52,344	53	48	100.00
3	1950	1994	52,600	50	44	100.00
4	1950	1995	28,168	50	45	100.00
5	1951	1988	23,952	49	37	100.00
6	1952	1989	15,540	48	37	100.00
7	1952	1996	33,080	48	44	100.00
8	1953	1994	24,400	47	41	100.00
9	1953	1994	11,120	47	41	100.00
10	1953	1995	16,400	47	42	100.00
11	1953	1995	13,680	47	42	100.00
12	1955	1981	25,600	45	26	100.00
13	1955	1992	9,440	45	37	100.00
14	1955	1992	23,200	45	37	100.00
15	1957	1982	28,000	43	25	100.00
16	1957	1984	10,208	43	27	100.00
17	1962	1984	11,200	38	22	100.00
18	1962	1989	26,400	38	27	100.00
19	1962	1993	32,696	38	31	100.00
20	1964	1993	25,108	36	29	100.00
21	1965	1992	15,200	35	27	100.00
22	1965	1996	39,600	35	31	100.00
23	1966	1984	12,400	34	18	100.00
24	1966	1993	19,376	34	27	100.00
25	1966	1995	14,400	34	29	100.00
26	1968	1984	19,499	32	16	100.00
27	1968	1993	24,880	32	25	100.00
28	1968	1996	18,200	32	28	100.00
29	1969	1993	24,864	31	24	100.00
30	1969	1994	24,624	31	25	100.00
31	1969	1995	34,000	31	26	100.00
32	1970	1989	12,768	30	19	100.00
33	1970	1992	12,480	30	22	100.00
34	1970	1992	24,960	30	22	100.00
35	1970	1992	12,400	30	22	100.00
36	1970	1992	26,904	30	22	100.00
37	1970	1993	24,960	30	23	100.00
38	1970	1993	16,944	30	23	100.00
39	1970	1995	20,880	30	25	100.00
40	1971	1995	12,480	29	24	100.00
41	1971	1993	13,740	29	22	100.00
42	1971	1993	39,184	29	22	100.00
43	1972	1984	12,360	28	12	100.00
44	1973	1993	16,100	27	20	100.00

45	1975	1993	15,504	25	18	100.00
46	1975	1993	13,056	25	18	100.00
47	1976	1991	25,056	24	15	100.00
48	1976	1994	14,400	24	18	100.00
49	1977	1989	12,480	23	12	100.00
50	1977	1992	12,480	23	15	100.00
51	1977	1993	0	23	16	100.00
52	1978	1980	12,528	22	2	16.67
53	1978	1992	24,792	22	14	100.00
54	1978	1992	12,312	22	14	100.00
55	1978	1992	13,056	22	14	100.00
56	1978	1993	0	22	15	100.00
57	1979	1993	0	21	14	100.00
58	1979	1994	12,480	21	15	100.00
59	1979	1993	12,480	21	14	100.00
60	1981	1983	49,980	19	2	16.67
61	1981	1983	50,000	19	2	16.67
62	1981	1993	12,480	19	12	100.00
63	1981	1992	14,384	19	11	91.66
64	1981	1993	0	19	12	100.00
65	1981	1994	12,480	19	13	100.00
66	1981	1995	25,296	19	14	100.00
67	1982	1991	13,056	18	9	75.00
68	1983	1992	12,544	17	9	75.00
69	1984	1992	12,096	16	8	66.66
70	1985	1993	3,456	15	8	66.66
71	1986	1986	24,960	14	0	0.00
72	1986	1993	0	14	7	58.33
73	1986	1994	0	14	8	66.66
74	1986	1993	20,736	14	7	58.33
75	1986	1994	0	14	8	66.66
76	1986	1994	0	14	8	66.66
77	1986	1995	12,624	14	9	75.00
78	1986	1994	0	14	8	66.66
79	1987	1989	24,960	13	2	16.67
80	1987	1994	0	13	7	58.33
81	1987	1994	0	13	7	58.33
82	1987	1994	0	13	7	58.33
83	1988	1994	0	12	6	50.00
84	1988	1993	14,400	12	5	41.67
85	1988	1992	12,400	12	4	33.33
86	1988	1992	12,048	12	4	33.33
87	1988	1992	14,400	12	4	33.33
88	1988	1993	18,240	12	5	41.67
89	1988	1992	12,500	12	4	33.33
90	1988	1994	0	12	6	50.00
91	1988	1994	24,800	12	6	50.00
92	1988	1994	24,000	12	6	50.00
93	1988	1995	3,440	12	7	58.33
94	1989	1990	5,376	11	1	8.33
95	1989	1995	0	11	6	50.00

96	1989	1993	14,400	11	4	33.33
97	1989	1995	16,320	11	6	50.00
98	1990	1993	12,500	10	3	25.00
99	1990	1994	12,768	10	4	33.33
100	1990	1995	14,400	10	5	41.67
101	1990	1995	0	10	5	41.67
102	1990	1995	14,400	10	5	41.67
103	1990	1995	0	10	5	41.67
104	1991	1993	17,280	9	2	16.67
105	1991	1994	14,400	9	3	25.00
106	1991	1993	14,400	9	2	16.67
107	1991	1995	0	9	4	33.33
108	1992	1995	0	8	3	25.00
109	1992	1995	0	8	3	25.00
110	1992	1995	14,400	8	3	25.00
111	1992	1995	0	8	3	25.00
112	1992	1995	15,744	8	3	25.00
113	1992	1994	14,400	8	2	16.67
114	1992	1995	12,688	8	3	25.00
115	1993	1996	0	7	3	25.00
116	1993	1994	5,760	7	1	8.33
117	1993	1996	0	7	3	25.00
118	1993	1996	0	7	3	25.00
119	1993	1995	0	7	2	16.67
120	1993	1993	49,384	7	0	0.00
Total Spindles			1,854,063			

The shaded units have operational life lesser than 12 years.

Figure 3.19.1

Appendix: BMR Calculations For Five Years

Figure 3.19.2: BMR Calculations for Five Years

Period	Installed spindles	Working Spindles	Spindle's Age	Number of Spindle (Age-wise)	Years of BMR	Spindles Requiring BMR	Spindles not Requiring BMR
1948	78	78	52	78	2		
1949	137	137	51	59	1		137
1950	182	182	50	45	0		
1951	225	225	49	43	9		
1952	499	302	48	274	8		
1953	649	600	47	150	7		
1954	1113	940	46	464	6	976	
1955	1449	1355	45	336	5		
1956	1518	1422	44	69	4		
1957	1568	1447	43	50	3		
1958	1569	1459	42	1	2		
1958-59	1581	1488	41	12	1		468
1959-60	1582	1491	40	1	0		
1960-61	1586	1531	39	4	9		
1961-62	1644	1527	38	58	8		
1962-63	1850	1810	37	206	7		
1963-64	1913	1792	36	63	6	332	
1964-65	1967	1852	35	54	5		
1965-66	2056	1871	34	89	4		
1966-67	2043	1888	33	-13	3		
1967-68	2048	1916	32	5	2		
1968-69	2175	2090	31	127	1		262
1969-70	2397	2327	30	222	0		
1970-71	2605	2491	29	208	9		
1971-72	2863	2650	28	258	8		
1972-73	3266	3057	27	403	7		
1973-74	3346	3034	26	80	6	1171	
1974-75	3366	2823	25	20	5		
1975-76	3455	2579	24	89	4		
1976-77	3546	2650	23	91	3		
1977-78	3585	2585	22	39	2		
1978-79	3729	2645	21	144	1		383
1979-80	3781	2701	20	52	0		
1980-81	4033	2833	19	252	9		
1981-82	4229	2832	18	196	8		
1982-83	4313	2986	17	84	7		
1983-84	4272	2919	16	-41	6	543	
1984-85	4445	2872	15	173	5		
1985-86	4485	3151	14	40	4		
1986-87	4356	3469	13	-129	3		
1987-88	4393	3607	12	37	2		
1988-89	4853	4026	11	460	1		581
1989-90	5271	4489	10	418	0		
1990-91	5568	4827	9	297	9		
1991-92	6216	5333	8	648	8		

1992-93	6860	5520	7	644	7		
1993-94	8419	6150	6	1559	6	3566	
1994-95	8610	6262	5	191	5		
1995-96	8717	6548	4	107	4		
1996-97	8230	6538	3	-487	3		
1997-98	8368	6631	2	138	2		
1998-99	8358	6634	1	-10	1		-61
				8358			
Spindles Requiring BMR in next five years				6588			
Spindles not requiring BMR in next five years				1770			

Appendix: Formulae for Different Calculations.

$$\text{Ounce per spindle/shift} = \frac{\text{Speed} \times \text{No. of spindles} \times .0254 \times \text{Efficiency}}{\text{TPI} \times \text{Count}}$$

$$\text{Simplex Bags /day} = \frac{\text{Speed} \times \text{No. of spindles} \times 24(\text{hours}) \times 60(\text{minutes}) \times \text{Efficiency}}{100 \times \text{TPI} \times \text{Count} \times 36(\text{inch}) \times 840(\text{yards})}$$

$$\text{Auto Coner Bags/day} = \frac{\text{Speed} \times \text{No. of spindles} \times 3(\text{shifts}) \times 0.005}{\text{Counts}} \quad \text{(at 80\% efficiency)}$$

$$\text{TPI (Twist per Inch)} = \text{TM (Twist multiplier)} \times \sqrt{\text{Count}}$$

Carding machine Bags/shift

$$= \frac{\text{meters/min} \times 1.093(\text{yard factor}) \times 60(\text{minutes}) \times 8(\text{hours}) \times 65(\text{grains}) \times \text{Efficiency}}{7,000 \times 100}$$

For Simplex frame TM is 1.15 upto 1.2 depending on the count. It increases for finer counts.
(7,000 grains = 1 lb.)

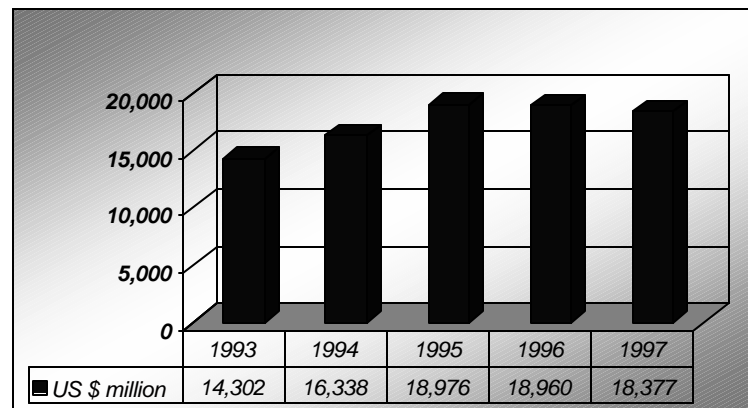
4. Woven Fabric

4.1. Global Trade of Woven Fabrics

The woven fabric segment of textiles is not limited to cotton fabrics alone. With the passage of time, a wide variety of different fibres have been artificially developed which can be blended with cotton in different proportions to give certain character to the cloth, depending upon its end use. Similarly a diverse range of synthetic and artificial filaments also contributes significantly in the global production of fabric. Broadly fabric can be classified into two groups, one representing cotton and blends and the other representing synthetic and artificial.

The global trade for woven fabrics (cotton & blended) is reported under the Standard International Trade Classification (SITC) code 652. This broader category represents all the different types of fabrics, which are classified on the basis of their blending ratios and construction/density.

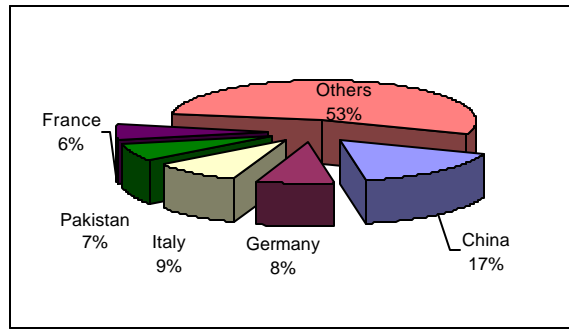
Figure 4.1.1: Global Woven Cotton/Blended Fabric Exports



The Figure 4.1.1 above shows the global textile fabric exports over a period of five years. The overall market of fabric (cotton and blended) is US \$ 18 billion. It can be observed that the growth in the fabric exports remained stagnant from 1995 through 1997. The average growth was around 7%, over five years. Considering 1993 as the base year the fabric exports have risen from US \$ 14.3 billion to 18.3 billion, resulting in a total increase of 29% in the monetary value of trade.

4.1.1. Export Market Share

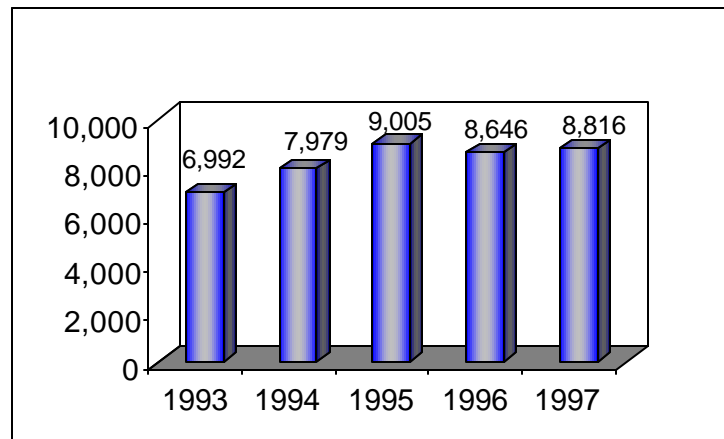
Out of a total market of US \$ 18 billion, China is the market leader in fabric exports with US \$ 3 billion worth of exports, giving it a 17% share in the global exports. China's fabric exports have grown at a tremendous rate, within a small span of five years there is a 50% increase in the total value of exports, which were at US \$ 2 billion in 1993. Within the European region Italy with a 9% share in the global exports has a dominating position followed by Germany and France having 8% and 6% share respectively.

Figure 4.1.1: Percentage Shares in SITC 652

The exports of these three European countries are to the tune of US \$ 4 billion. Pakistan also has a decent position in the global export market of fabrics with a 7% share. The market share of Pakistan is slightly higher than that of India, which has 6% share.

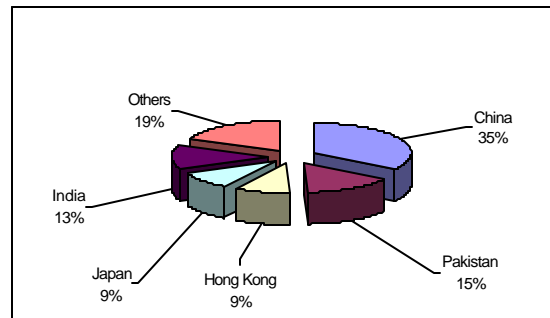
4.1.2. Asia Fabric Exports

Analysis of global trade data on textiles reveals that during the past ten years there has been a major change in the exports of developing countries. The share of less developed countries in fabric exports has increased and that of the developed countries has decreased. Within the developing countries Asian countries enjoy a prominent position in the textile trade. An important factor for this change in the direction of trade is the competitive advantage of Asian countries due to the availability of the raw material and cheap labour. Most of these countries are cotton growing countries and also the largest manufacturers of the Man Made Fibres.

Figure 4.1.1: Asia Fabric Exports

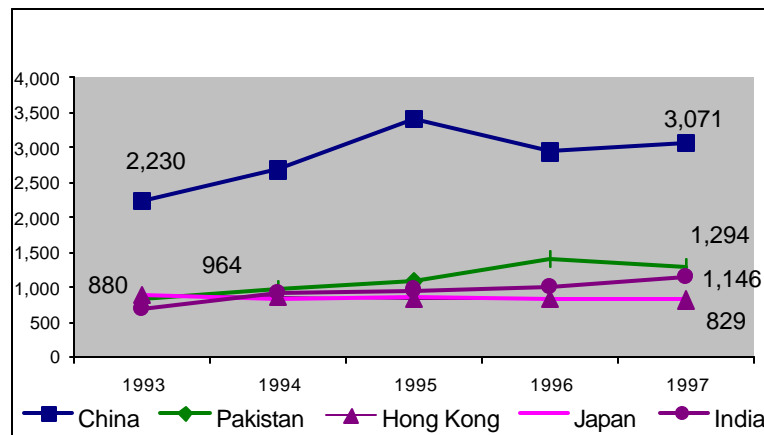
Out of the total export market of US \$ 18 billion for woven fabrics, almost 50% of the exports are generated from Asia. The exports have increased by 28% in value during a period of five years. In line with the world exports trend, the Asian market has also not shown any growth from 1995-1997

Figure 4.1.2: Asia Market Share 652



Exports from China, Pakistan, India, Korea and Hong Kong combined together comprise more than 80% of the total fabric exports from Asia. As is the case of global woven fabric exports, China has the greater pie with 35% share in the Asian country exports followed by Pakistan with 15% and India with 13% share. Considering Japan as an exception, it can be concluded that the production of woven fabric, both blended as well as pure cotton, is concentrated in the less developed countries including India and Pakistan, which primarily are agrarian economies with cotton as their major cash crop and with surplus labour force. This can also be considered as a major contributing factor resulting in the shift of fabric production from the developed countries. Within the Asian region the shift of production of fabric from developed to less developed countries is quite obvious. There is an overall increase in the exports of fabrics from developing countries while considering the same time bracket for the developed countries in Asia, such as Japan and Hong Kong, exactly the opposite phenomenon can be observed.

Figure 4.1.3: Asia Major Export Trends



The market share of both these countries in exports is on a decline. Japan, e.g. exported US \$ 880 million worth of fabrics during 1993, whereas its exports reduced to US \$ 829 million in 1997, registering a total decrease of 6% of value. A very similar trend can be observed for Hong Kong also. The developing Asian countries, Pakistan and India on the other hand recorded a net increase of more than 60% in the fabric exports value.

4.2. Product Segmentation of Fabric

Fabric is exported in different forms depending on the extent of value addition and is reported under numerous data codes. The SITC 652 when analysed at the five-digit split-level gives the details regarding the exports under each category. For the purpose of analysis various common fabric types have been lumped together in five segments. Slight data discrepancies arise between data at five digits and three digit level, still very useful inferences can be drawn by this analysis.

Figure 4.2.1 Fabric Export Trends

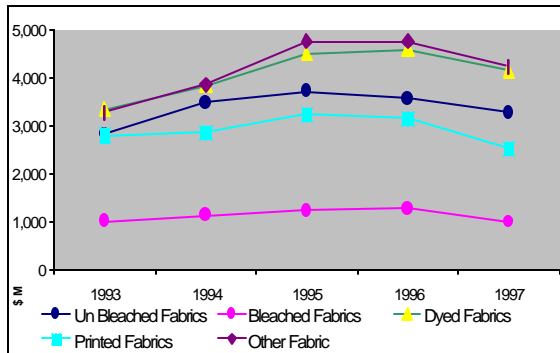
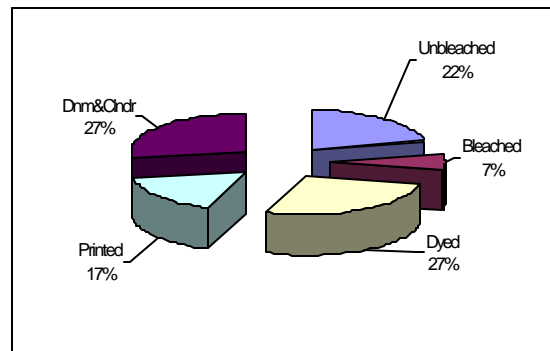


Figure 4.2.2 Product Segmentation of Fabrics



The global fabric exports have been classified into five broad categories. These fabric segments are arranged on the basis of value addition.

- a. Dyed Fabric
- b. Denim and Calendered Fabric
- c. Printed Fabric
- d. Bleached Fabric
- e. Unbleached Fabric

Based on the dollar value of exports the share of dyed and denim and calendered fabric is 27% each in the global fabric exports. During 1997 a total of US \$ 8.5 billion worth of fabric from these categories was exported. The reason for such a high share in exports is due to the degree of value addition in these categories. A great deal of value is added in the grey fabric through the process of dyeing and finishing. The process is highly capital intensive and requires expertise and skill of the highest level that is why the exports from developing countries like India and Pakistan are very low in the processed fabric segments. Whereas the developed countries are the major importers of unprocessed fabric and add value through processing. Out of a total export market of US \$ 4.2 billion for the dyed fabrics, almost 45% is exported by the developed European countries including France, Italy and Germany. China has the largest share of 18%, US \$ 744 million, in the global exports of dyed fabric.

Figure 4.2.3 Top Exporters Denim & Calendered

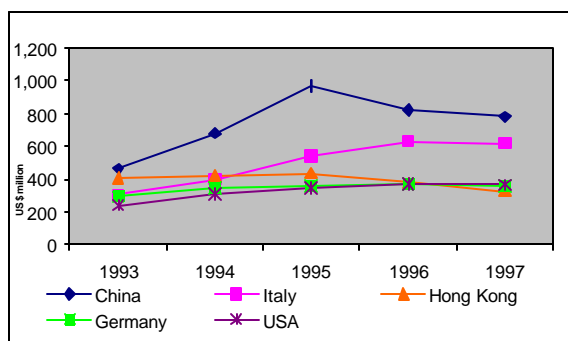
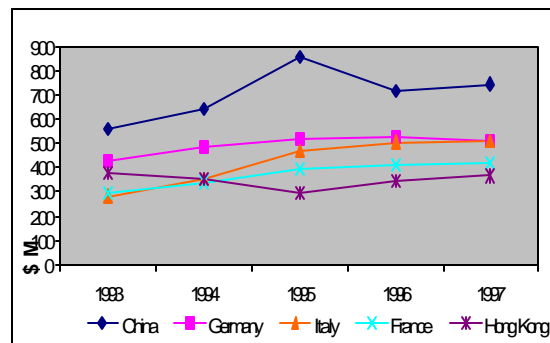


Figure 4.2.4: Top Exporters of Dyed Fabric



As is the case of dyed fabric the denim and calendered fabric exports are also dominated by three most developed countries USA, Germany and Italy. The single largest prominent player is again China with US \$ 782 million of exports, giving it a 19% share of the total market. The declining exports trend for China could be due to the overall stagnant growth in the fabric market. Another factor, which might have its effect on the exports of fabric, is the move towards value addition. Most of this fabric is used for garment manufacturing and China has been very aggressive in forward integration of the textile sector.

Printed fabric constitutes another 17% of the fabric exports. The total value of printed fabric exports was US \$ 2.5 billion. The developing countries have a fairly big share in the global exports of printed fabrics. The printing process again like the dyeing process is capital intensive but involves a much simple technique making it possible for the developing countries to add value. Pakistan with a 15% share in the total printed fabric exports has the largest market. Competitors in this category include developed European countries like Italy, Germany and France.

Figure 4.2.5: Top Exporters Printed Fabric

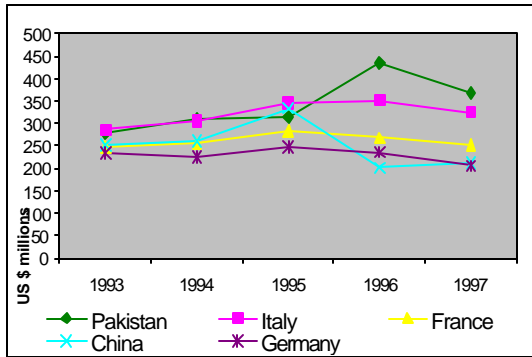
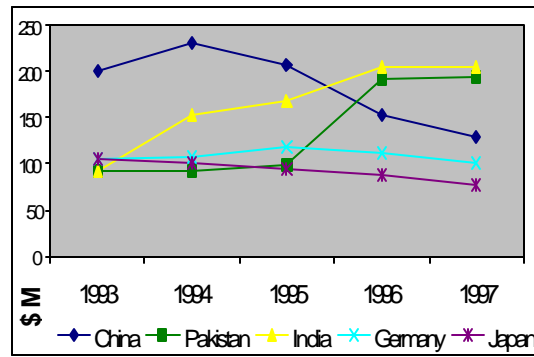
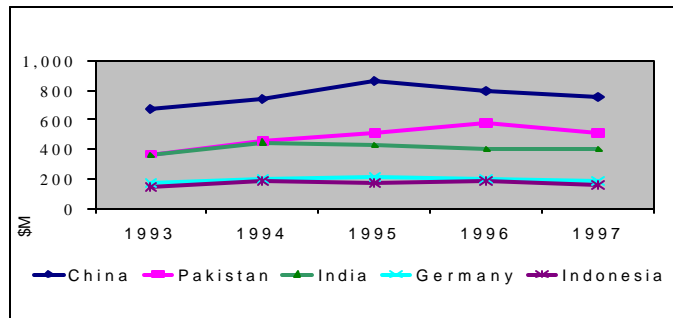


Figure 4.2.6-Top Exporters Bleached Fabric



The bleached fabric has the smallest market segment of 7% in the overall fabric exports. The exports of bleached fabric were around US \$ 990 million during 1997. The trend of trade over a period of five years depicts the limited demand and use of bleached fabric in the global market. Although the bleaching is comparatively a low value added process than dyeing and printing but still Developed countries including Japan and Germany export about 16% of the total bleached fabric exports. More than 52% or US \$ 515 million, of bleached fabric is exported by Pakistan, India and China. Another interesting phenomenon is the declining market share of China, Germany and Japan in unbleached fabric exports and increasing market shares of Pakistan and India. Despite not being a very high value added product, still increasing share in unbleached fabric exports depicts a move towards value addition.

Figure 4.2.7: Top Exporters Greige Fabric



The unbleached fabric segment has a 22% share in the total exports. The exports of unbleached fabric were around US 3.3 billion during 1997. The value of exports when compared with that of dyed and denim and calendered categories is very small. Although the volume of unbleached fabric exports is very high when compared with the same fabric types. Only plausible reason is the aspect of value addition, which is the lowest for unbleached fabric. Almost 54% of the unbleached fabric exports come from four countries namely Pakistan, India, China and Indonesia. A decreasing trend of unbleached fabric exports supports the increase in the exports of bleached fabric exports for countries like Pakistan and India.

4.2.1. Woven Fabric Segments based on Fabric Type

The above mentioned product segments of fabric are based on the different stages of value addition after the fabric has already been manufactured. The classification does not take into account the fabric quality



based on the type of yarn used in the weaving process. Cotton is blended in different proportions with artificial and synthetic fibres such as polyester, viscose and lycra at the spinning stage to produce blended yarns. These yarns are used to manufacture a wide variety of fabrics, which after processing are converted into garments and textile made-ups.

To analyse the composition of fabric exports and proportion of blended fabrics, the fabric data reported at a three-digit level (SITC 652) is dissected into two broad categories. One category represents exports of fabric having less than 85% cotton and the other having greater than 85% cotton. It is not possible to get the details of various types of blends depending upon the kind of synthetic yarns used and the exact blending ratios of various fabrics. A general analysis of the composition of fabric exports depending upon the extent of blending can be easily drawn.

The major portion, almost 85%, of the global fabric trade still comprises of the fabrics having more cotton in them. The composition of exports, when observed over a period of five years show an obvious trend that the share of blended fabrics, having less cotton, is increasing.

In the greater than 85% (> 85%) blended fabric category, the proportion of pure cotton fabrics cannot be exactly determined. However it can be safely assumed that cotton fabric is the major component of this category because such low blending ratios are not very widely used to produce fabrics. The trend of exports for this category depicts that the trade of pure cotton fabrics or the fabrics having a very low percentage of blending (15% or less) is decreasing. During 1995 the exports were at US \$ 16.4 billion, which decreased by almost 6% in 1997.

On the other hand the exports of less than 85% (< 85%) category, which represents fabric having 84% or less cotton in it, increased by 14% during the same reporting period. For future projections and a more reliable analysis usually a longer time series is used. Simple linear regression of a five year time series reveals that the future growth in the less than 85% (< 85%) blended fabric category will be much more than that of the greater than 85% (> 85%) blended fabrics. This can be easily inferred from the trend line inserted in

Figure 4.2.1 figures and Figure 4.2.2.

Figure 4.2.1: World Export Trend of Blended Fabric <85%

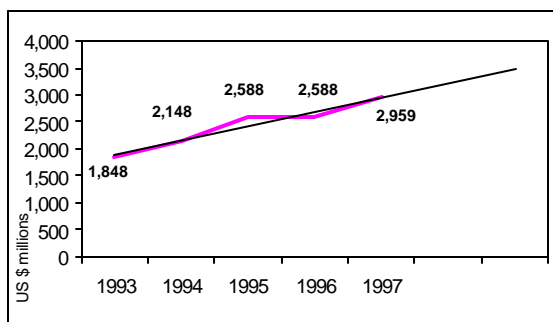
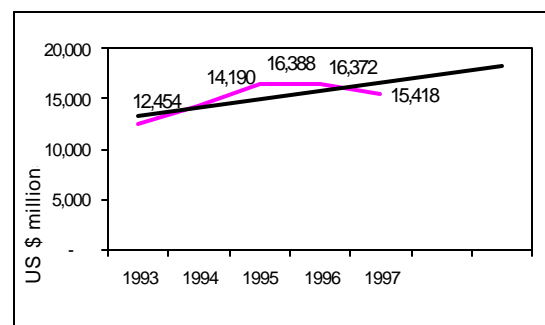


Figure 4.2.2: World Export Trend of Blended Fabric > 85%



4.3. Analysis of Global Fabric Trade Volumes

The analysis in the above sections of the report has been limited to the export markets and the value of trade. Analysis of data based on volumes and both exports and imports of fabric provides some important insights into the structure of textile industries of different regions. Some basic inferences about the extent of value additions in countries can also be drawn from this analysis. Since major portion of trade comprises of cotton fabrics, the focus of this section also revolves around the key players in the cotton fabric trade.

Figure 4.3.1: World Export Market Share

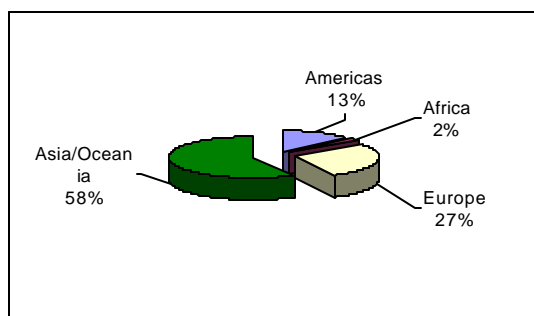
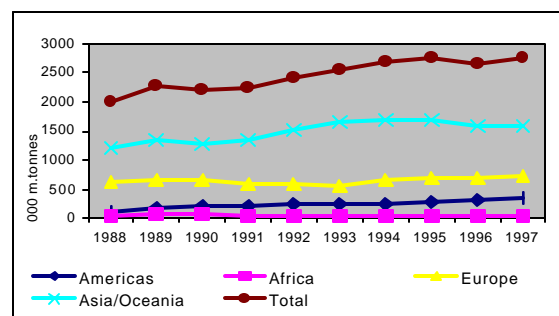


Figure 4.3.2: World Cotton Cloth Exports



4.3.1. Exports of Cotton Cloth

The total exports of cotton fabric were 2.7 million m.tonnes in 1997. As is the case of value of exports, the export volume of fabric has also not shown any growth for a period ranging from 1995 through 1997. The overall increase in the export volume was only 1%. Whereas, from 1991 to 1994, the exports grew considerably from 2.2 million m.tonnes to 2.6 million m.tonnes, recording an increase of 21%. The average growth in the volume of export trade, over a period of ten years, was around 4%.

Based on export volume of fabrics, the major share of the trade goes to the Asia/Oceanic region. It enjoys a 58% share in the global exports of fabric. The European countries have 27% share of the total exports followed by America(s) with 13% and Africa by a negligible 2% share of total volume of fabric exports. The overall increase in volume of the European region exports seems to be very consistent with the total export volume trend. It also registered an increase 21% during 1997, from the base year 1988. The Asia/Oceanic region (including Australia) registered an increase of 32% in the volume of exports during the same period. Extra ordinary growth can be observed in the American region, comprising of North, Central, and the South America. Although the American region has a small percentage of global exports, the growth in the volume was more than 200%.

Table 4.3.1: Major Fabric Exporting Countries

Major Fabric Exporting Countries (000 m.tonnes)										
Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
USA	43.9	93.3	126.2	128	137.3	146.6	154	166.6	171.1	214.7
France	71.4	82.3	84.3	80	78.4	84.9	89.6	86.2	91.6	103.4
Germany	126.2	135.6	139.1	136.7	129.4	120.5	125.7	114.9	118.6	127.9
Italy	49.2	53.9	60.6	61.3	74.4	90.2	103.4	115.5	118.7	129.7
U. Kingdom	22.1	26.5	34.9	35.8	33.8	29.4	32.2	33.9	34.2	33.1
China	531.3	562.4	524.1	579.2	713.9	905.8	843.4	892.6	728.2	722.6
Taiwan	62.1	84.1	85.9	84.8	78.6	66.8	81.6	68.8	78.5	
Hong Kong	150.8	164.7	93.9	89.9	87.3	84	76.9	69.7	65.3	67.2
Japan	54.2	55.7	69.7	68.3	64.8	58.6	53.2	49.6	52.8	53.7
Korea Rep	42.4	42.9	56.1	57	60.6	44.3	49.3	48.1	49	45.8
India	104.3	121.8	132	132	137	159	163	175	188	220
Pakistan	123.8	139	156.3	169.8	178.8	161.7	170	160.8	219.3	194.3

4.3.2. Significant Fabric Exporters

The Table 4.3.1 above provides details about the fabric exports from all the major countries in each region. The United States of America is the single largest exporter in the American region. Almost 60% of fabric

exports in the region originate from the USA. Similarly in the European region Italy and Germany dominate the fabric exports volume with 35% share in the total exports from the European Region. Almost in all the European countries the volume of fabric exports is either decreasing or stagnant except for the Italy, whose volume increased 160% from 49.2 million kgs in 1988 to 130 million kgs in 1997. In the Asian region, China has dominated the export volumes in the fabric trade with 45% share. It is interesting to observe the export volumes of Hong Kong in the Asian region. Hong Kong's share in Asian cotton fabric exports has declined from 8% (151 million kgs) in 1988 to 2% (67 million kgs) in 1997. An important factor that can be associated with this decrease is value addition in the fabric. Hong Kong besides having a key role in global fabric trade also enjoys a central position in the clothing trade. Even for pure cotton fabric, Hong Kong is the only country in the Asia/Oceania region, which imports highest volumes of fabrics.

Pakistan and India combined together have a 15% share in the Asian region fabric exports. Both the countries, being major cotton growers, have the advantage of producing pure cotton fabrics than other countries. The export volumes of both India and Pakistan have grown at the average rate of 9% and 6% respectively. An important factor to take into account here is the unit price realisation of cotton fabric for Pakistan. If the growth of price realisation is similar to the growth in volumes, only then the increased volumes depict a healthy sign. Otherwise, it refers to poor quality of fabric exports and a skewed product mix, which requires improvement in fabric quality, as well as the product mix (variety of fabric based on density and construction).

4.3.3. Imports of Cotton Cloth

Unlike cotton fabric exports, the developed countries are the major importers of cotton fabrics. The American and the European region constitute about 60% of the total imports. The Asian region on the other hand has 39% share in the global imports of cotton fabric.

The imports of American region have increased from 302 million kgs to 839 million kgs in a period of ten years, with the total increase in imports of 177%. This growth in fabric

Figure 4.3.1: World Imports Shares

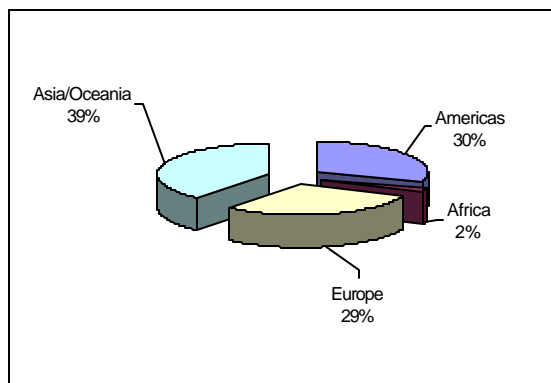
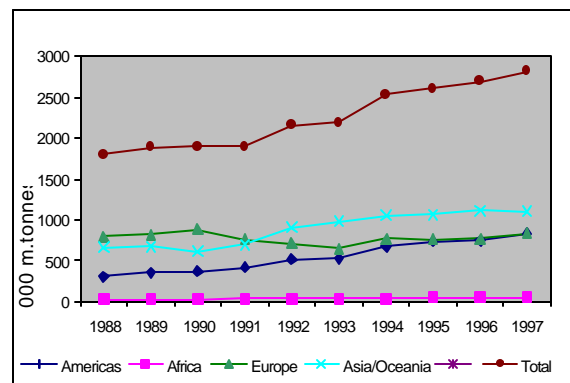


Figure 4.3.2: Global Imports of Cotton Cloth



imports is incomparable with any region in the world. The imports of cotton fabrics in the European region seem to have declined for period of four years from 1990 through 1994 and then onwards have more or less remained stagnant. The average growth rate of imports in the European region was about 0.8% during this period. The cotton fabric imports of Asian region, before 1991, were lower than the European region imports but suddenly after 1991 the imports of the Asian region can be observed to have picked up at a high growth rate.

The reason which explains this phenomenon to some extent is that fabric importing countries usually add value through further processing it or convert it to garments and textile made-ups. The manufacturing of garments and made-ups is a labour intensive process. Increasing wage pressures in the textile sectors of the developed countries has played a catalytic role in the movement of the industry towards low wage countries of the Asian region.

Table 4.3.1: Major Fabric Importing Countries

Major Fabric Importing Countries 000 m.tonnes										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
United States	221.6	271.9	270	308.2	358	397.5	363.4	346	330.1	403.1
Italy	124.9	143.7	150.1	132.1	115.6	108.5	143.9	140	128.8	129.6
U.Kingdom	143.4	138.6	146.6	135.9	129.7	99.2	99.2	99.2	92.8	136.1
Hong Kong	316.6	262.9	245.8	271.5	305.4	332.9	323.6	318.8	297.3	301.2
Srilanka	4.5	5.4	7	12.9	29	36	45	41	40	50
Bangladesh	10.3	13.3	18.7	22.9	26.9	31				

4.3.4. Fabric Importing Countries

The United States of America is the largest importer of cotton fabric with 403 million kgs of imports. The imports of the American region are driven by the USA, which constitutes around 50% of the total American region imports. Within the European region, Italy, which is internationally considered to be a high quality processor of fabric, comes out as the largest importer based on the total imports of ten years. It becomes very difficult to actually compare the data on an annual basis due to the erratic import trend of both Italy and the United Kingdom.

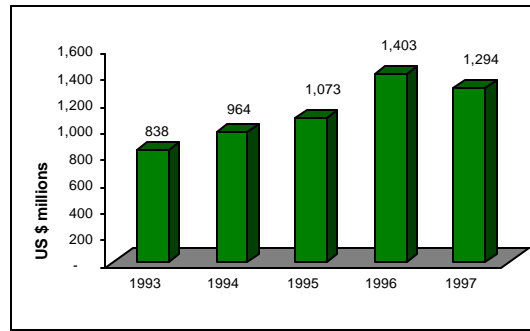
Over the past few years some Asian countries like Bangladesh and Sri-Lanka have emerged as the converters of fabric. Due to unavailability of indigenous cotton fabric these countries import fabric and convert it into high value garments. This can also be observed in the import figures of these countries. The fabric imports of Sri-Lanka have grown at an average rate of 35%. The absolute increase in volume of exports for Sri-Lanka is ten times that of 1988. Data for a similar period is not available for Bangladesh but for a period of 6 years the imports of fabric have grown at an average rate of 25%. It must also be kept in mind that the analysis in this section is limited to cotton fabric only whereas the garments are manufactured by using blended as well as synthetic fabrics. The import quantities do not represent the whole of fabric imports by any country.

4.4. Pakistan Exports of Fabric

In this section of the report similar five-year time series data (1993-97) will be used which was earlier used in the global analysis section. The export market analysis for Pakistan will be presented in a later section based on Federal Bureau of Statistics (FBS) data 1998-99.

In the early years, the integrated units having their own ginning as well as spinning facilities dominated the export of fabric from Pakistan. With the changes in the tax structures, labour laws and also economies of scale the integrated units lost their viability leading to the development of independent power loom weaving sector. The share of independent weaving units in the total exports increased over time.

Figure 4.4.1: Pakistan Exports of Fabrics 652



More than 25% of the textile and clothing exports from Pakistan comprise of woven fabrics which includes both the pure cotton and the blended fabrics. During 1997 Pakistan exported US \$ 1.3 billion worth of fabric. This translates into an increase of 54% in the total value of exports from 1993. The average growth of export during this period was around 12%. The fabric trade from Pakistan appears to have benefited from the East Asian Economic crisis. This can be viewed in the Figure 4.4.1 as a sudden increase of 31% in exports over the preceding year. The effect of the crisis seems to have dampened out in the next year where exports fell to US \$ 1.3 billion.

Two other factors can also be considered to have their impact on the exports. Firstly the unit price realisation of Pakistani fabric, which fell below the previous year's level and secondly the fabric produced domestically is converted to high value added products such as textile made-ups and garments. Volume of trade during the period, for cotton fabric only, reveals that the total quantity of fabric exported from Pakistan decreased from 219 million kgs in 1996 to 194 million kgs (refer to table major fabric exporting countries). This makes it evident that the unit price realisation of fabric is not the main cause of lower exports.

4.4.1. Product Mix of Pakistan Exports

In order to analyse the product mix of Pakistan exports, the exports are classified into five different fabric types depending upon the extent of processing involved. Only the denim category represents a different fabric type, which is also assumed to be exported after processing.

Figure 4.4.1: Fabric Exports of Pakistan

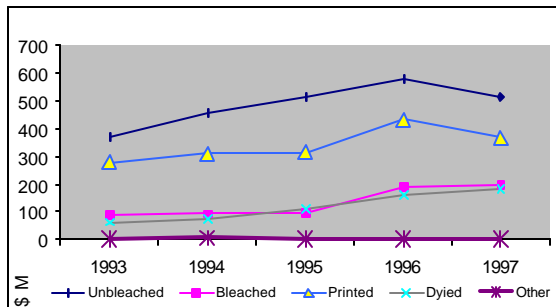
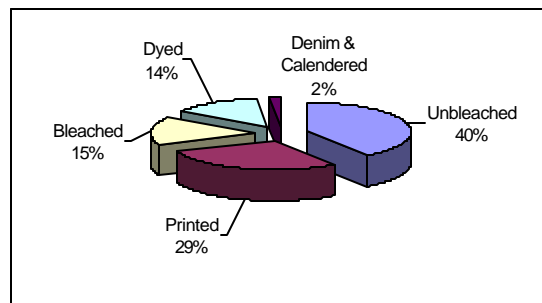


Figure 4.4.2: Pakistan Fabric Exports 652



4.4.1.1. Unbleached Fabric

Pakistan is present in almost all the product segments, based on the processing of fabric. About 40% of the fabric is exported from Pakistan without any processing (unbleached). Comparing it with the global exports, the market segment of the unbleached fabric is only 22% of the total exports. Pakistan with total

exports of US \$ 513 million in unbleached category has a major share of 15% in the global unbleached fabric exports. The reason for high exports in the low value added fabric category (unbleached) is the low quality dyeing and processing in Pakistan. This not only earns much less foreign exchange for the country but also internationally builds a perception of Pakistan to be a low quality fabric producer.

4.4.1.2. *Bleached Fabric*

Bleached fabric is 15% of Pakistan exports. Bleaching is a simple process during which the desizing of the woven fabric is done and it is processed to give extra whiteness. As compared to other fabric processes such as dyeing and printing, bleaching does not add significant value in the fabric. The Pakistani industry cannot be considered to further increase its share in the limited global export market of bleached fabric. The bleached fabric has 7% share in the global fabric exports and is the smallest segment. The market size is around US \$ 1 billion and Pakistan already has a 20% share of the total global exports in this category.

4.4.1.3. *Printed Fabric*

The printed fabric comprises 29% of the fabric exports from Pakistan. Again this fabric category is only 17% of the global fabric exports. Pakistan has a 15% share of the global printed fabric exports, which is around US \$ 368 million. The reason for such a high share in the printed fabric category is again low quality fabric. The fabric manufactured on power looms has a number of defects due to the inherent weaknesses of the technology. This fabric therefore is not fit to be dyed because the dyeing process further enhances the fabric defects. This quality of fabric is usually printed because printing has a masking effect on the fabric, which hides its defects. The printed fabric exports of Pakistan have been growing at an average growth rate of 9% for the last five years. Only recently during 1997 the exports declined by 15%, which is in line with the overall fabric exports during the same year.

4.4.1.4. *Dyed Fabric*

The dyed fabric exports from Pakistan during 1997 were US \$ 195 million. This segment has a 14% share in the total exports. In the global fabric market, dyed fabric is one of the biggest categories with total export to the tune of US 4.14 billion. Pakistan's share in the global dyed fabric exports is only 5%. However, the average growth of dyed fabric exports from Pakistan has been 27% over a period five years. Considering 1993 as the base level, the exports of dyed fabric were only US 64 million, which increased tremendously to US \$ 164 million during 1996.

This phenomenon of growth can be associated with the BMR of the existing dyeing facilities in the country and establishment of a couple of large size dyeing units during the same time which facilitated the growth of exports through value addition. The dyed fabric segment is the potential area of growth. A great deal of value can be added in the grey fabric by processing it. The dyed fabric market being the biggest in all fabric types makes it easier for Pakistan to further penetrate. Whereas, for other segments such as unbleached, bleached and printed fabrics, Pakistan already has a decent share which will be difficult to increase if the existing product mix pattern is followed.

4.4.1.5. *Denim Fabric*

An equal shareholder as that of dyed fabric in the global fabric trade is the denim and calendered fabric category. This category also has a 27% share with the total exports worth of US 4.2 billion. This product segment has a meagre 2% share in Pakistan's exports. The exports of denim fabric have remained at US 2 million level for the past five years. Coarse cotton yarn is used in denim fabric manufacturing and Pakistan has a competitive advantage in the coarse counts as most of the spinning units are optimised on 20-count manufacturing. A great deal of value can be added by increasing the production of processed denim fabric and converting it into high value added garments.

There is an increase of about US 1 billion in the trade of this category over a period of five years, from 1993 to 1997. Furthermore the presence of developed countries like Italy, Hong Kong and the USA in the

exports of denim fabric gives a clear indication that this particular fabric segment is driven by quality which can also be linked to high unit price realisation. Development of denim fabric therefore depends upon the quality of dyeing and fabric finishing. Again processing industry comes out as a critical area that can play a vibrant role in developing exports of a diverse range of fabrics from Pakistan.

4.4.2. Woven Fabric Types and Pakistan's Exports

Traditionally, Pakistan has concentrated on the exports of cotton based fabric. Manufacturers completely ignored the importance of man made fibres used for blending in fabric. Over the years the global consumption pattern also seem to have shifted towards the blended fabric categories where cotton is blended in different proportions with other man made fibres such as polyester, nylon, etc. With the increase in blending ratios the same amount of cotton is used to manufacture greater quantities of cloth with diverse end use.

Figure 4.4.1: Pakistan Export Trends of Blended Fabric > 85%

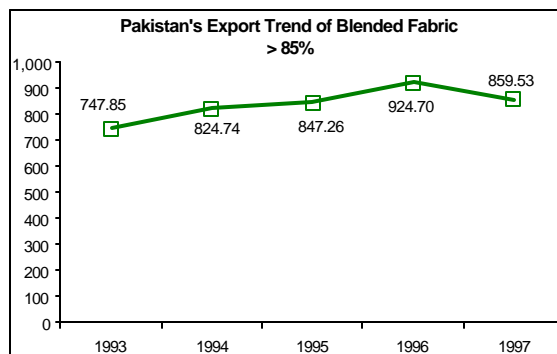


Figure 4.4.2: Pakistan Export Trends of Blended Fabric < 85%



Pakistan is a late starter in the export markets of blended fabric. The figures above i.e. Figure 4.4.1 and Figure 4.4.2 show the export trends of Pakistan in the blended and pure cotton fabric. It is assumed that the category representing greater than 85% cotton is comprised of cotton only, keeping in view the high consumption of cotton, as compared to other staple fibres, by the spinning industry of Pakistan.

It can be very clearly observed that the exports of cotton fabrics from Pakistan have almost remained stagnant over a period of five years. The average growth has been around 4%. Whereas, the exports of blended fabric, observed for a similar period, show a tremendous increase. The exports, which were US \$ 1.5 million only in 1993, increased to US \$ 253 million in a short span of five years. This sharp increase in the exports of blended fabric, with an average growth of 600%, relates to the increased demand of such fabrics in the international markets.

An analysis on similar lines for the global exports has also been presented earlier, which showed consonant trends, with a much less growth rate as experienced by Pakistan due to its late entry in the trade of blended fabrics. It leads to the conclusion that the use of man made fibres not only allows to further stretch the existing cotton fabric production but also enables to increase penetration in the international markets through a wide range of products. Pakistan, in order to increase its market share in global fabric trade will have to reduce its dependency on cotton alone and increase the production of blended fabrics through greater use of artificial and synthetic staple fibres.

Figure 4.4.3: Pakistan Exports of Blended Fabric-1997 > 85% Cotton

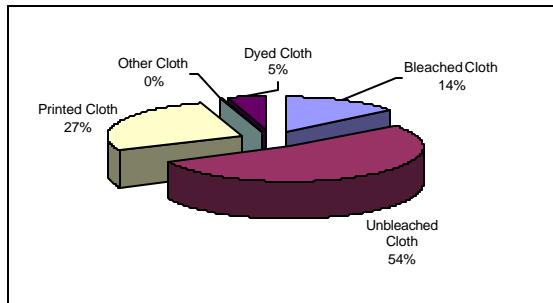
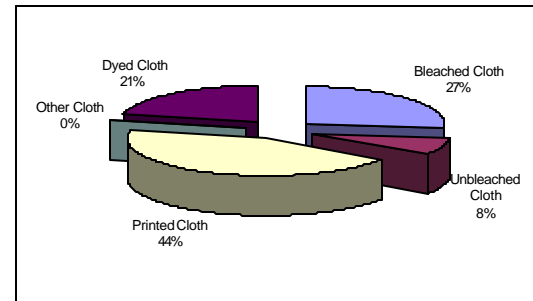


Figure 4.4.4: Pakistan's Exports of Blended Fabric-1997 < 85%



4.4.3. Value Addition and Blended Fabrics

Another important aspect of blended fabric exports of Pakistan is the extent of value addition. In greater than 85% blends category (majority comprising of cotton) the value addition is very low, 54% of the total fabric is exported without any processing, resulting in a low price realisation. Contrary to this, in the blended fabric category (< 85% cotton) the extent of value addition is much higher and can be assessed from the fact that 92% of the fabric exported is processed. The printed fabric exports constitute the largest segment under this category having a value of US \$ 110 million during 1997. This again highlights the significance of focussing on the blended fabric production, which would enable Pakistan to increase its exports at a faster pace.

4.4.4. Unit Price Realisation of Fabric

Unit price realisation is a good indicator for benchmarking quality. For this purpose a few fabric categories have been selected to get an idea about the quality perception of fabric exported from different Asian countries to the USA. Two fabric types are selected from each category of unbleached, bleached, printed, dyed and denim fabric for comparison. All the fabrics selected are either 100% cotton or contain at least 85% cotton. The reason for selecting these fabrics is that, in cotton fabrics Pakistan has a competitive advantage due to the availability of indigenous cotton.

The unit price realisations of almost all the fabric types highlights one factor that Pakistan is placed at the lower end of the market. Even in value added fabrics Pakistan is not able to realise fair price as compared to other Asian countries. One reason for this low price realisation is the quality of fabric, based on density. Fabric exports from Pakistan are comprised of low-density fabrics, which use coarse or medium count cotton yarns. Whereas the Asian competitors seem to have a balanced portfolio of fabric type in their exports without a bias towards low density and low count yarns.

In the plain weave unbleached fabric (graiage fabric) category the average price of Asian countries is US \$ 0.85/sq.m, whereas for Pakistan the price is US \$ 0.43/sq.m which is 50% less than the Asian average. The highest unit price is realised by Japan, which clearly indicates the usage of high tech air jet machines, with the capability of handling complex fabric construction with negligible fabric defects.

Table 4.4.1: Unit Price Realisation of Cotton Woven Fabrics

USA Market (\$/m2)								
HS No & Type	Fabric Type	Pakistan	India	China	Korea	Indonesia	Turkey	Japan
Unbleached								
5208124040	Plain weave Weight >100<=200G/M2	0.43	0.43	0.54	1.56	0.63	0.5	1.89
5208130000	3-thread or 4-thread twill, including cross twill Cotton Containing >85%, Weight <200G/M2	0.61	1.01	0.58	1.47	0.68	0.64	2.75
Bleached								
5208224040	Plain weave Cotton >85% Weight >100 & <=200G/M2	0.63	1.9	0.72	1.85	1.12	0.57	2.56
5208230000	3-thread or 4-thread twill, including cross twill Cotton Containing >85% Weight <200G/M2	0.67	1.36	1.38	1.65	1.42	0.87	2.33
Dyed								
5208323040	Plain weave Containing Cotton >=85% Weight >100 & <=200G/M2	0.76	0.83	0.8	1.49	1.58	1.75	2.63
5208330000	3-thread or 4-thread twill, including cross twill Containing Cotton >85% Weight >100G/M2	0.78	1.66	0.88	1.7	1.3	1.08	2.74
Printed								
5208523040	Plain weave Cotton >=85% Weight >100 & <=200G/M2	0.72	0.72	1.14	1.52	1.09	1.34	1.95
5208530000	3-thread or 4-thread twill, including cross twill Containing Cotton >85% Weight <200G/M2	1.13	1.68	1.73	1.03	1.36	1.68	2.97
Blue Denim								
5209420040	Denim, weighing more than 200 g/m2 Woven Fabric Cotton >=85% Weight >360 G/M2	1.67	1.42	1.53	1.22	1.07	2.63	5.55

A similar inference can be drawn for the other unbleached twill fabric category. The Asian average in this category is US \$ 1.1/sq.m and the unit price realisation of Pakistan is 45% less than the Asian average. Here again the highest price is realised by Japan. Even unit price realisation of India for this fabric type is almost 40% higher than that of Pakistan. The unbleached twill fabric of China is the cheapest. High volumes of Chinese fabric exports is a strong contributing factor, where the exporters have managed to develop economies of scale thus enabling them to compete at low prices. Considering the difference of 48% from the Asian average, it would not be wrong to assume that China is also placed at the lowest end of the market, and has a strong presence in the market segment where it is competing directly with Pakistan and India.

Similarly for bleached, dyed and printed fabric categories, the price realisation of Pakistan is lower than the Asian average. The difference between the Asian average and Pakistan ranges from 53% to 40%. Except for the denim fabric where the unit price realisation of Pakistan is only 22% lower than the Asian average. Japan is fetching the premium per unit price even in this category. US \$ 5.55/sq.m price of Japanese denim

is almost 160% higher than the Asian average. Although the unit price of Pakistan is much lower than that of Japan but still it is higher than all the other Asian competitors except Turkey.

4.4.4.1. Fabric Price Trends of Pakistan

As established earlier that the unit price realisation of Pakistani fabric is the lowest in most of the fabric categories be it plain weave or twill weave. The unit price realisation trend of Pakistani fabric, over a period of five years, from 1994 through 1998 also shows dismal growth in unit prices with time. For majority of the categories, both plain weave and twill weave the unit price either show a downward trend or show stagnant growth. Even the value-added fabrics, including the dyed and printed ones, are also seen to have failed to show any significant growth in the unit prices, rather in the twill woven fabric both the categories, printed and dyed registered a negative growth of 14% and 1% respectively. For plain weave, the dyed and printed fabrics registered an immaterial average growth of 1% and 2% respectively.

Denim fabric is the only fabric category, which was able to perform over this period. The unit price for denim fabric grew at an average rate of 7% from 1994 through 1998. It was US \$ 1.29/sq.m in 1994 and increased to US \$ 1.67/sq.m. The global export market for denim fabric is US \$ 4.8 billion and Pakistan's export has been hovering around US \$ 2 million. Despite the fact that this segment is ideal to increase the exports, considering the strength of Pakistan spinning industry in coarse and medium count cotton yarns, there has not been any noticeable move by the industry in this direction. All the global as well as the local indicators send a positive clear signal for the textile weaving industry to further develop the denim fabric. The growth in price realisation also validates that even the existing dyeing facilities are able to produce acceptable standard of dyed denim fabric, which fetches better prices than India and China.

Figure 4.4.1: Pakistan Unit Price Realisation of Plain Weave Fabric \$/m²

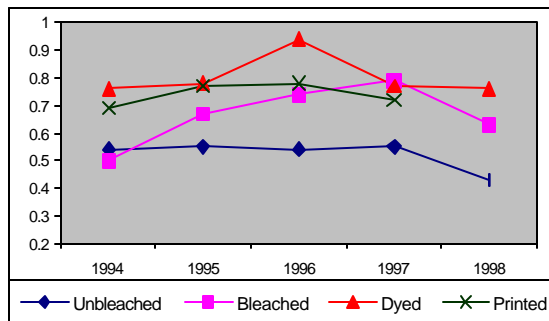
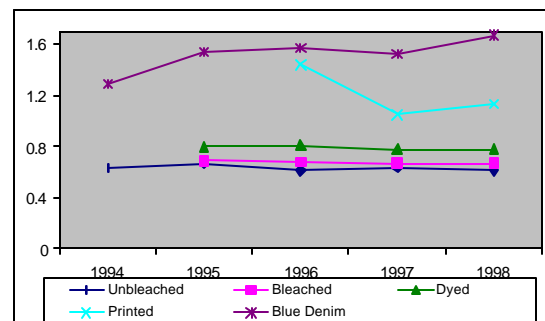


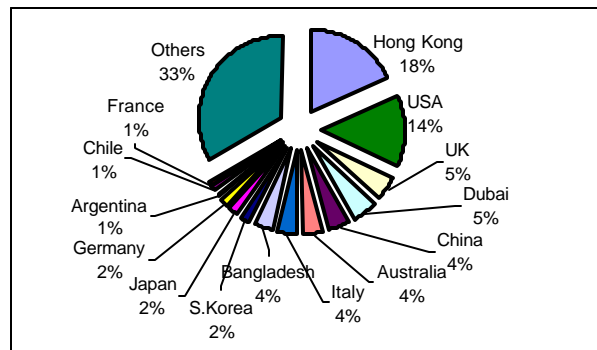
Figure 4.4.2: Pakistan Unit Price Realisation of Twill Weave Fabric \$/m²



4.4.5. Country Wise Exports of Fabric from Pakistan

The latest figures of cotton and blended fabric exports, reported under SITC 652, are available for the year 1998-99. The exports of fabric are at the same level of US \$ 1.2 billion as in 1997. The volume of fabric exports is 1.3 billion square meters. The average unit price realisation of the fabric, regardless of the fabric type, comes around US \$ 0.89/sqm.

Figure 4.4.1: Pakistan Exports of Woven Fabrics 1998--99



Hong Kong is the major importer of fabric from Pakistan with a total share of 18% in exports. The total imports of fabric were to the tune of US \$ 221 million. Hong Kong is also the largest importer of fabric in the Asian region. The garment manufacturing industry of Hong Kong is very well established, more than US \$ 5 billion worth woven garments are exported by it through out the world. Furthermore Hong Kong has also developed itself as an international market place for textile products. Buyers from different countries visit Hong Kong to place orders of textile merchandise, which serves their purpose by being a One-Stop Shop. The USA is the second largest importer of Pakistani cotton and blended fabric. It imported US \$ 172 million worth of fabric from Pakistan, with a market share of 14%. The average unit price realisation of fabric in the USA market is 0.85 \$/sqm, which is 16% lower than the price realisation in the Hong Kong market, Pakistani fabric fetches US 1.02 \$/sqm. It also refers to the fact that Hong Kong imports more value added (high density) and processed fabrics from Pakistan whereas the USA market of Pakistani fabric comprises of low density and low value added products. Among the European countries, United Kingdom is the prominent importer of fabric from Pakistan with market share of 5%, and imports of US \$ 61 million. The average unit price realisation of imports is around US \$ 0.75/sqm, which is even lower than the USA. Other European countries include Italy with 4%, Germany with a 2% share and France with a 1% share in the fabric exports from Pakistan.

The import of Bangladesh and Dubai are worth mentioning here. Bangladesh import US \$ 43 million worth of fabric from Pakistan. Without a strong weaving base, Bangladesh has relied on fabric imports to produce garments in great volumes, with an additional advantage of EU market access through its GSP (General System of Preferences) which imposes no quota on Bangladesh along with tariff free exports. Similarly the Middle Eastern countries have also attracted the attention of developing countries, which operate under quota restriction from EU and USA. To avoid exports constraints arising from quota availability and additional quota costs, quite a few exporters from developing countries have established their manufacturing facilities in Middle East including Dubai. This is particularly true for the garments manufacturing. Being a free port it also enables exporters to source intermediate materials from around the world at international prices. This also explains fabric imports of Dubai from Pakistan, which are US \$ 58 million, constituting 5% of the fabric exports.

Table 4.4.1: Pakistan Exports of Cotton & Blended Fabrics

Country	Quantity Square Meters	US \$ 000
HONG KONG	215,634,428	221,324
USA	201,288,235	171,840
UNITED KINGDOM	81,252,570	61,058
DUBAI	57,386,697	57,942
CHINA	53,005,564	53,610
AUSTRALIA	46,750,617	49,116
ITALY	53,708,976	46,989
BANGLADESH	55,395,335	43,291
SOUTH KOREA	32,572,513	28,968
JAPAN	28,760,627	27,473
GERMANY	25,241,432	26,684
ARGENTINA	21,260,991	17,059
CHILE	17,987,208	14,686
FRANCE	11,301,521	9,377
Other	453,619,079	387,394
Total	1,355,165,793	1,216,810

4.4.6. Distribution of Fabric Exports

Although Pakistan's exports of fabric have already been discussed based on the type of fabrics, classified on the basis of value addition. Further data analysis on the product mix of fabric leads to certain significant findings. Around 65% of the fabric exports comprise of cotton or chief value cotton (CVC), which also includes blends having greater than 85% cotton. Only 19% of the fabric exports comprise of blends having less than 85% cotton in them. To evaluate the extent of value addition in the fabric exported from Pakistan the frequency distribution of exports based on the price realisation (\$/sqm) is estimated. For this purpose different price ranges have been formed starting from less than 0.50 \$/sqm to greater than 2\$/sqm.

Figure 4.4.1: Pakistan Fabric Export Product Mix-1998--99

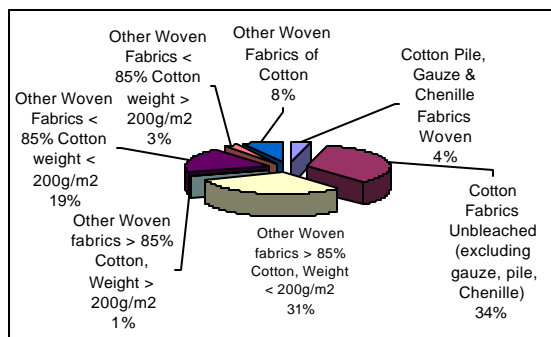
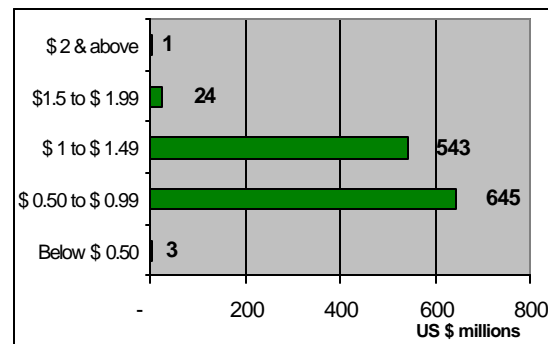


Figure 4.4.2: Unit Price Distribution of Pakistan Fabric Exports



The price range of 0.50 \$/sqm to 0.99 \$/sqm is the largest segment of fabric exports from Pakistan. US \$ 645 million worth of fabric exports lie within this range, constituting 53%. Another 45% of exports fall in the greater than 1 \$/sqm and less than 1.49 \$/sqm segment. In all about 98% of the fabric exported from Pakistan fetches between 0.50 \$/sqm to 1.50 \$/sqm. Whereas the fabric price range of greater than 1.50 \$/sqm presents a dismal picture, as Pakistani fabric has negligible presence. This refers to low value addition and market perception of Pakistan's textile products, majority of which are not able to surpass the 1\$/sqm mark. It also depicts the potential that remains untapped by the fabric producers of the country. A quantum leap at the macro level in the textile sector seems to be achievable, considering the extent of low value addition reflected in the export product mix. The findings of a similar analysis on individual fabric

types comply with that on the overall fabric exports. In almost all the categories majority of exports fall in the less than one-dollar segment.

4.4.6.1. Major Cotton Fabric Categories and Importing Countries

Figure 4.4.1: Pakistan Exports of Cotton Printed Fabric 1998--99

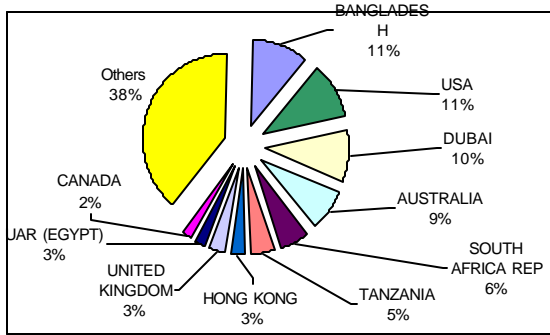
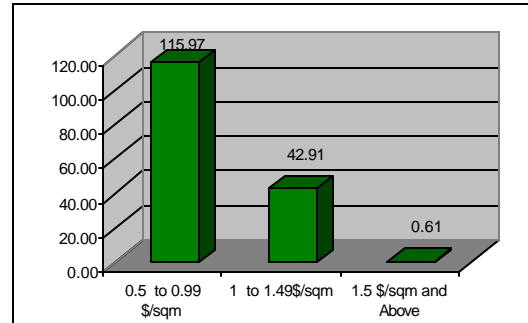


Figure 4.4.2: Exports of Print Cotton Fabric >85%, Weight < 200gms/sqm SITC 6523400



It is very difficult to discuss all the fabric types that are being exported from Pakistan. Only major sub categories of fabric will be discussed. As given in the previous section only two categories i.e cotton woven fabric, greater than 85% cotton, less than 200 gm/sqm weight (SITC 6523), the second category unbleached cotton fabric (SITC 6522) constitute 65% of the fabric exports.

Almost 82% of the exports under 6523 are from two fabric categories, analysed at a seven digit SITC level, these include print fabric greater than 85% cotton reported under SITC 6523400, with a total exports around US \$ 159 million. The other fabric category is bleached cotton fabric, mill made which is reported under SITC 6523129, with a total exports of US \$ 158 million. At the four-digit level the woven fabric exports of greater than 85% cotton fabric having weight of less than 200gm/sqm, is US \$ 382 million. The major importing country for printed fabric (SITC 6523400) is Bangladesh with an 11% share in the total exports of Pakistan in this category. Bangladesh imported more than 27 million square meters of fabric having a value of more than US \$ 17 million. The USA, Dubai and Australia are the other significant fabric importers having 11%, 10% and 9% market share. The unit price realisation is also low like in the overall fabric exports of Pakistan. Almost 73% of the fabric is exported for 0.5 \$/sqm through 0.99 \$/sqm. The low value added products also dominate greater part of printed fabric exports.

Figure 4.4.3: Exports of Cotton Cloth Bleached Mill Made 1998-99

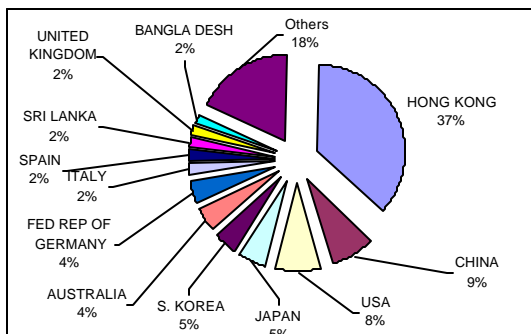
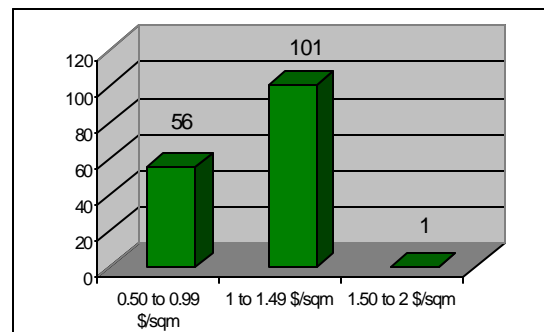


Figure 4.4.4: Exports of Bleached Cotton Fabric Mill Made 1998-99 SITC 6523129



The bleached cotton fabric, reported under SITC 6523129 is the other product that constitutes 41% of the exports in the greater than 85% cotton fabric category. Interestingly almost 64% of the total exports under

this category are exported in a higher bracket of price range i.e. US \$ 1/sqm to US \$ 1.49/sqm. The major importing country of bleached fabric from Pakistan is Hong Kong having a market share of 37%. It imported more than 57 million square meters of bleached fabric worth US \$ 58.5 million. Other importing countries include China, USA, Japan and South Korea. The European countries, in all, import more than 10% of the bleached fabric which is equal to 16 million square meters with a value of US \$ 16 million.

Considering the exports of bleached cotton fabric from the standpoint of value addition, bleaching is the simplest process but due to fact that Pakistan has developed its niche in this market which has enabled Pakistan to fetch greater unit price, as compared to printed fabric. The overall global market of the bleached cotton fabric is limited to around US \$ 4 billion and Pakistan cannot be considered to only increase its fabric exports through concentrating in this area alone. Although this can be exploited further through improved quality and increased volume which will definitely contribute to the portfolio of textile exports.

Almost 83% of the exports of unbleached (greige) fabric are from a single fabric category reported under SITC 6522119. A total of 339 million square meters of fabric with a value of US \$ 346 million square meters was exported under this fabric category. Observing the distribution of fabric exports on dollar price ranges, US \$ 232 million worth of fabric exports are within the export price range of US \$ 1 to 1.49/sqm, which depicts the presence of high density fabric manufactured on shuttle-less looms. Whereas the low unit price realisation in the printed cotton fabric is due to fabric composition, major portion of which is produced by the power looms. The fabric used for printing and exported from Pakistan is usually low-density fabric, manufactured on shuttle looms, resulting in low unit price realisation.

Figure 4.4.5: Pakistan Exports of Cotton Cloth Un-bleached Mill Made 1998-99

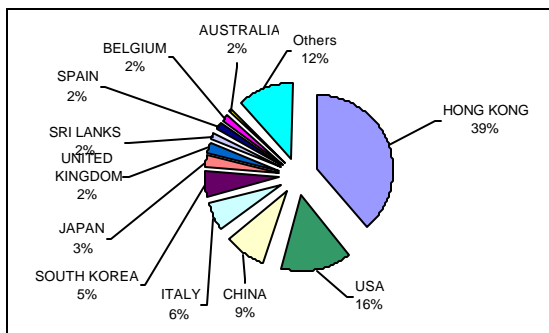
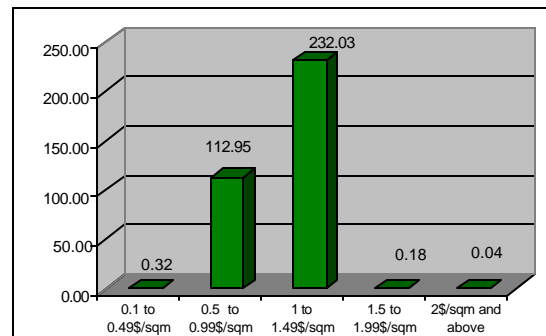


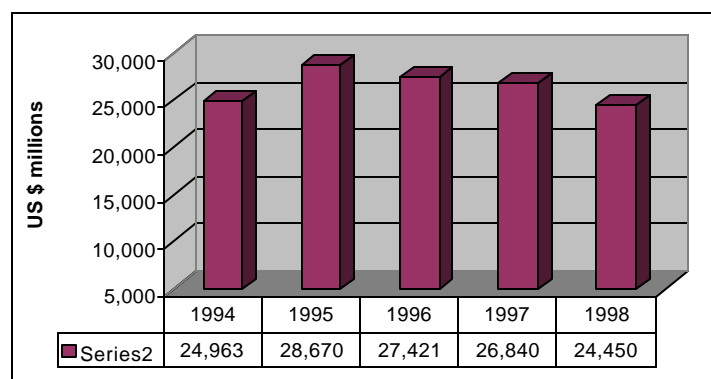
Figure 4.4.6: Unit Price & Exports of Cotton Cloth Un-bleached Mill Made 1998-99 SITC 6522119



Hong Kong is the major importer of greige, unprocessed, fabric from Pakistan with a market share of 39%. The total volume of Hong Kong imports was 131 million square meters against the value of US \$ 135 million. The USA also has a 19% share in the Pakistan's exports of unprocessed fabric. Other significant importers include China with 9%, Italy with 6% and S. Korea with 5% market share in Pakistan's export of fabric under this category. It is worth mentioning here that Pakistan exports high volume (339 million sqm) of unprocessed fabric, which can be used to add value through processing and manufacturing of garments and made-ups. The greatest impediment is the quality of dyeing and finishing in the country, which is not up to the international standards. The vital aspect of the unprocessed fabric exports is that a large portion of fabric is exported at the value range equal to that of the bleached fabric. Which confirms the hypothesis that the exports of unprocessed fabric from Pakistan are comprised of medium to high-density quality fabrics which after processing will enable the county to fetch higher unit price in the international markets.

4.5. Man Made Woven Fabric

Figure 4.5.1: Global Exports Manmade Woven Fabric 653



Greater portion of the global fabric trade is comprised of the manmade woven fabric. This fabric is manufactured from various manmade filaments and fibres including polyester, nylon, acrylic and viscose etc. The applications of such fabrics is not limited to industrial use only, it is also used to manufacture winter clothing, women garments and sports gear. The total export market of manmade fabric is around US \$ 25 billion. The trade has revolved around this figure without any growth over a period of five years from 1994 through 1998. It would be incorrect to conclude that the market of artificial and synthetic woven fabric is contracting unless the volumes of export trade are also analysed. For this purpose the trade volume of top exporting countries is observed over the same period.

Table 4.5.1; Top Exporters of Artificial & Synthetic Fabric Metric tonnes

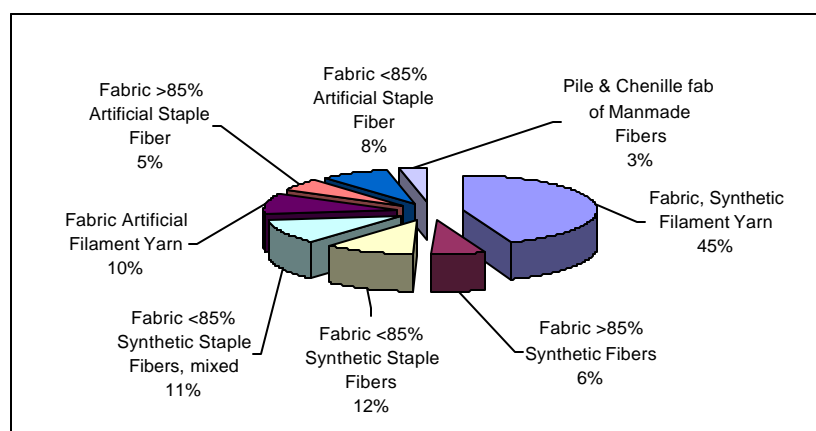
	1994	1995	1996	1997	1998
KOREA	591,786	655,027	693,668	712,173	640,405
GERMANY	161,730	158,112	154,504	159,355	163,805
JAPAN	136,241	130,897	142,999	140,803	129,647
ITALY	112,103	131,062	130,279	141,012	137,603
Total	1,001,860	1,075,098	1,121,450	1,153,343	1,071,460

The analysis of export volumes of trade reveals that over a period of five years the overall volume of trade of the top countries has not decreased. It was around 1 million metric tonnes in 1994 and remained at the same level during 1998. China, being an important player with exports of US \$ 2.4 billion in the global market of synthetics is not included in the table because the export volume is reported in fabric length rather than weight. China exported around 3.2 billion meters of fabric in 1994, which almost increased by 30% in 1998 to 4 billion meters. This again leads to the conclusion that the market of artificial fabric is expanding and as a result of increased production of artificial fibres the prices of such fabrics are declining having an impact on the value of trade, which gives an impression of a shrinking market.

4.5.1. Product Segments of Manmade Fabric

As in the case of cotton and blended fabrics, the fabric is classified into different categories on the basis of blends as well as the fabric density. Similarly the manmade woven fabric exports are also categorised on the basis of the type and ratio of the fibre used. Broadly two kinds of filaments and fibres are used to manufacture manmade fabrics, these include artificial as well as synthetic materials. The difference between these two is that the artificial filaments and fibres are obtained by processing certain naturally occurring fibres such as rayon. The raw material for synthetic fibres and filaments is obtained after processing such as polyester.

Figure 4.5.1: Product Segment Manmade Fabric



Based on the above-mentioned classification, fabric made of synthetic filament yarns has the largest market share of 45%, which is equal to US \$ 10.7 billion. The global mill consumption of fibres, when observed for the past few years also shows a shift of consumption from staple fibres to filaments. During the 1980's, staple fibres constituted 58% of the global mill consumption whereas the filaments constituted only 42%. Current split of mill consumption for fibres and filaments is 50% each. Similarly within the various filaments, polyester filament accounts for 70% of the global filament mill consumption. Meaning thereby the overall market of filament fabric is likely to grow at a much faster rate as compared to that for other staple fibres.

The market share of manmade fabric exports also depicts that the combined exports of filament fabrics, regardless of the ratio and type, is greater than the total exports of staple fibre based manmade fabric. The growth in the exports of filament based fabrics is quite consistent with the global mill consumption patterns. A detailed break-up and export performance of manmade fabrics can be observed in the Table. This information is limited to the type of filament and fibre and their ratios in different fabrics.

Table 4.5.1; Product Segment of Manmade Fabric Exports

		US \$ millions				
SITC	Woven Fabric Type	1994	1995	1996	1997	1998
6531	Fabric, Synthetic Filament Yarn	10,832	12,239	12,063	11,985	10,791
6532	Fabric >85% Synthetic Fibres	1,465	1,676	1,761	1,792	1,541
6533	Fabric <85% Synthetic Staple Fibres	2,694	3,039	3,056	3,157	2,773
6534	Fabric <85% Synthetic Staple Fibres, mixed	2,224	2,680	2,796	2,853	2,689
6535	Fabric Artificial Filament Yarn	2,623	3,128	2,760	2,521	2,482
6536	Fabric >85% Artificial Staple Fibre	2,541	2,688	1,902	1,559	1,289
6538	Fabric <85% Artificial Staple Fibre	1,924	2,484	2,331	2,119	2,061
6539	Pile & Chenille fabric of Manmade Fibres	658	734	752	853	825
	Total	24,963	28,670	27,421	26,840	24,450

4.5.2. Important Global Players in Synthetics

Figure 4.5.1: Global Export Market Shares for Manmade Fabric 653

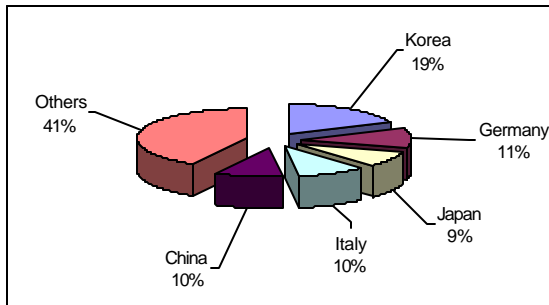
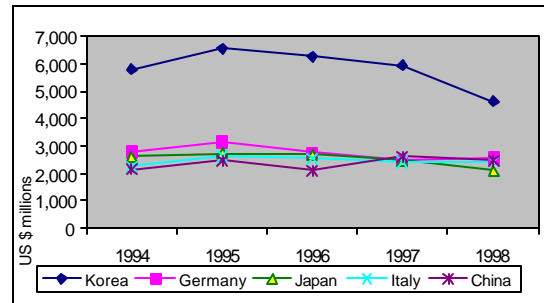


Figure 4.5.2: Global Exports of Manmade Woven Fabric



The Republic of Korea is the biggest exporter of synthetic fabrics in the world. It controls 19% of the market share with US \$ 4.6 billion worth of exports. As given in the earlier section, the value of exports from Korea seem to be reflecting the world export trends where the export value has declined tremendously. During 1994, Korea exported US 5.7 billion worth of synthetic fabric that reduced approximately 19% during 1998. This decline of about US 1 billion in the trade can also be observed in the trend line of Korean manmade fabric exports. Despite an enormous decrease in value the export volumes have actually increased by 8% during this period.

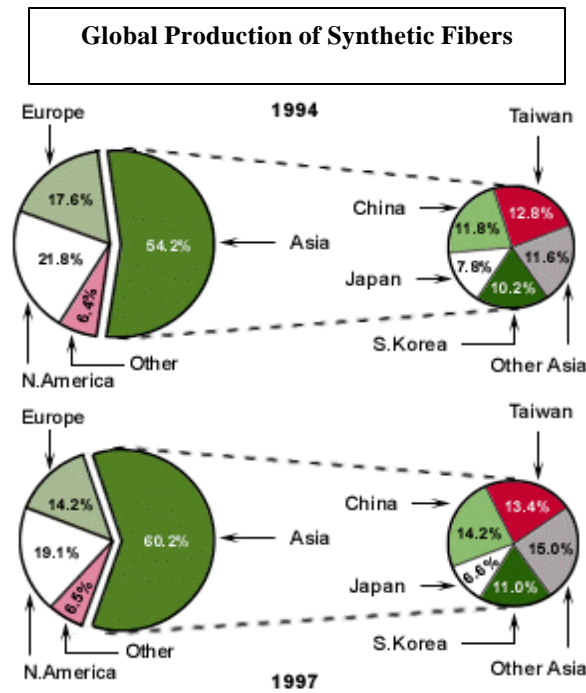
Other important players in the global synthetic fabric market include Germany with 11% market share, Japan with 9% market share and Italy and China both having 10% market share. Similar to Korea, the trends of all the countries show a decline in the value of exports whereas the volume of exports has either remained the same or increased.

4.5.3. Asia and Manmade Fabrics

The Asian countries enjoy an important position in the global trade of manmade woven fabric. More than US \$ 11 billion worth of manmade fabric exports, accounting for 46% of the global fabric exports, are generated from this region. The availability of raw material seems to be the key factor that has enabled the countries in the region to acquire a strategic position in the global trade of synthetics.

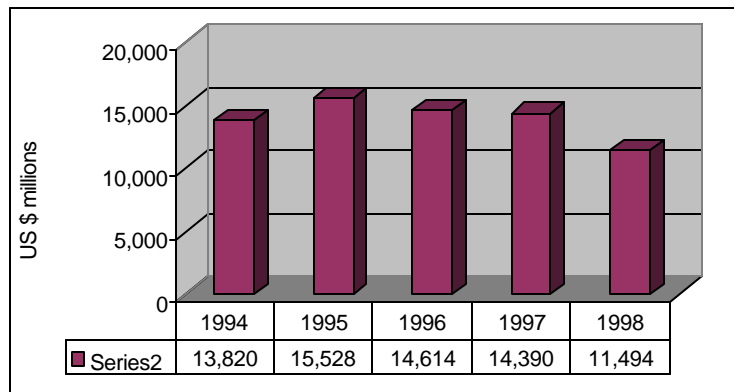
The figure below represents the global production split of manmade fibres. Even in 1994 the Asian countries had control over 54% of the total production of artificial and synthetic fibres. Interesting phenomenon is the shift of production from developed European and American region towards the Asian countries. Currently the Asian countries including S.Korea, China, Taiwan and Japan have become a hub of the manmade fibre manufacturing having 60% share of the global production. Artificial fibre production is a capital-intensive process with negligible labour costs. The only reason which could have played a catalytic role towards the rapid establishment of this industry is firstly, the increasing demand of fibres by the weaving industry to manufacture fabric and secondly, the capability of the above mentioned countries to fabricate the equipment themselves thus reducing the capital costs of the projects and making them commercially viable.

Figure 4.5.1: Global Production of Synthetic Fibres



4.5.3.1. Asian Exports of Manmade Fabric

Figure 4.5.1 Exports from Asia Manmade Woven Fabric 653



The significant position of the Asian countries can be assessed from the fact that they control almost half of the world fabric trade. Although the Asian share in global export value has declined from 55% in 1994 to 48%, which is inconsistent with the shift in production towards the region, but the volume of exports has increased. The trend of Asian country exports is very similar to that of the world because they constitute major portion of it. The overall decrease in value of exports is 17% in 1998 when compared from 1994, which is much higher than the world exports. After a peak of exports in 1995 the value of manmade fabric exports is on a decline. Another very crucial factor that has played a vital role here is the exchange rate of US Dollar and Asian currencies. The East Asian currency crisis resulted in an unprecedented appreciation of dollar with respect to the Asian currencies with the affect of increased purchasing power which explains the declining trend in the value of trade, whereas, the volumes have increased.

Figure 4.5.2: Major Asian Exporters 653

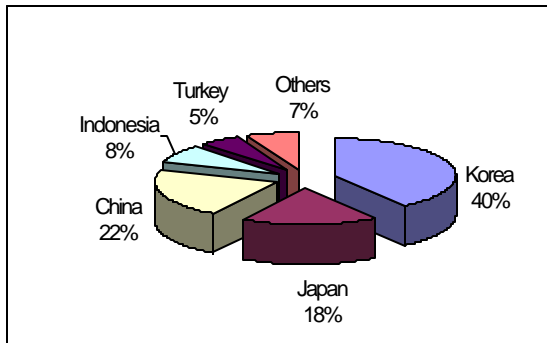
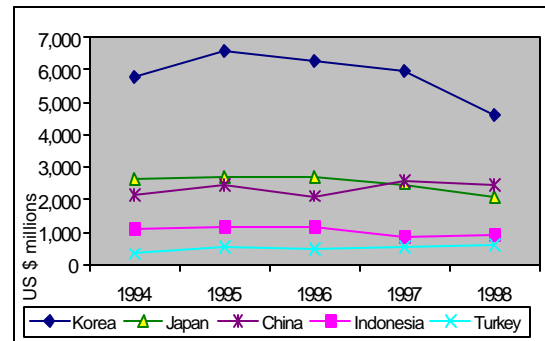


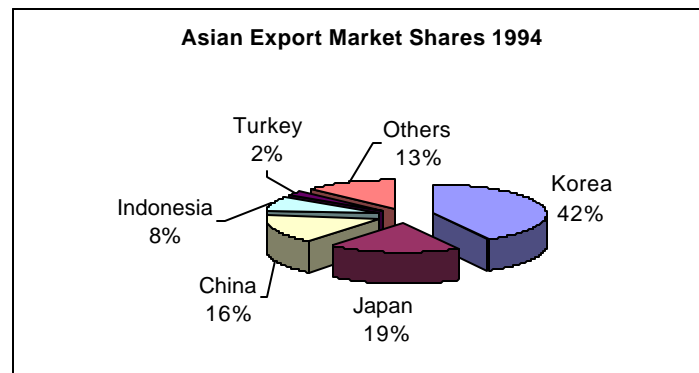
Figure 4.5.3: Asian Exports of Manmade Woven Fabric Trends



4.5.3.2. Market Position of Manmade Fabric Exports

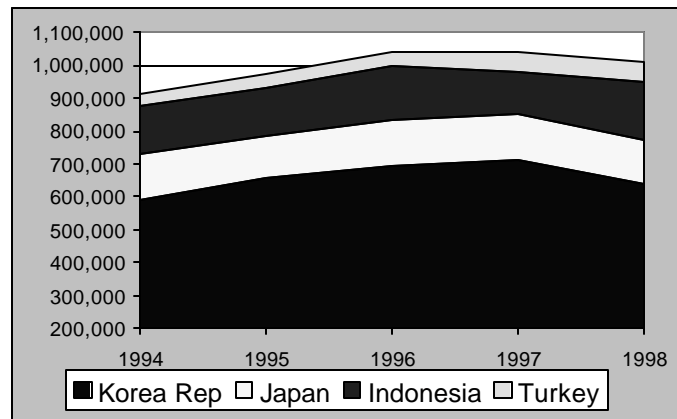
Five Asian countries constitute about 45% of the global exports of manmade woven fabrics. Korea is the single largest exporter with an export of US \$ 4.6 billion having a dominating position in the Asian market with 40% market share. China and Japan are the other large players with a market share of 22% and 18% respectively. The growth in volumes of the exports, as shown in the table above, give a clear signal that despite of shrinking margins due to low price realisation, the demand of manmade fabric is on the rise.

Figure 4.5.1 Asian Export Market Shares 1994



Except for Taiwan, other Asian countries, which produce raw materials, in this case artificial, and synthetic fibres, also have strong weaving base to produce fabric. If the market share position of the Asian countries for 1994 is observed and compared with that of 1998, the direction, which the two countries China and Turkey have taken, becomes obvious. Turkey which had a market share of only 2% (US \$ 326 million) increased its market share to about 5% (US \$ 611 million) of the Asian countries exports. Not only the value of exports has increased, the total volume has also increased. The market share based on export volumes is not possible to calculate due to reporting discrepancies. Similarly China also increased its market share from 16% in 1994 to 22% in 1998. China with its strong weaving base is further strengthening its position in global trade of manmade fabrics. Whereas, the tremendous growth in the exports of Turkey is only possible with investments in the weaving sector. The availability of synthetic fibres at international price level can be considered to have enabled the industry compete internationally.

Figure 4.5.2: Export Volumes of Manmade Fabric Asia in Metric Tones



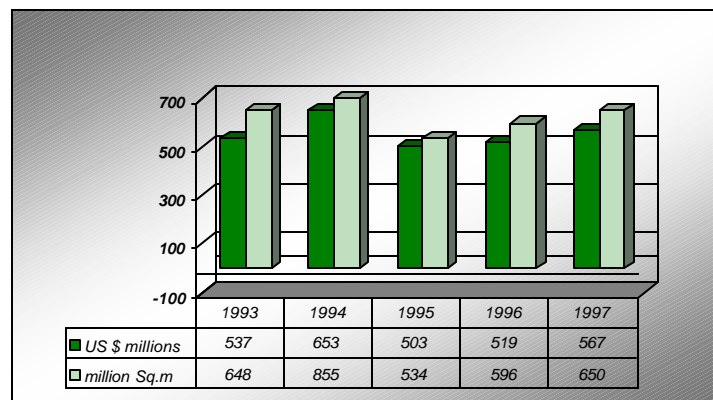
4.5.3.3. Asian Manmade Fabric Export Volumes

The volumes of manmade fabric exports from major Asian countries can also be seen in the figure. Since 93% of the exports are from five Asian countries, only the trend analysis of these countries provides a realistic view of the situation. The area in the graph clearly shows the increase in export volumes of Indonesia, Turkey and Korea, while the total quantity of fabric exported from Japan is at the same level as in 1994. The quantity of fabric exports from China almost increased 30% over the same period. China exported 3.2 billion meters of fabric in 1994 that increased to 4.1 billion meters during 1998.

4.5.4. Manmade Fabrics in Pakistan

The manmade fabrics are an important component of Pakistan's textile trade. It constitutes almost 12% of the total textile export value. The trend of exports, observed for five years from 1993-97, does not show any considerable increase in the exports. Only US \$ 10 million incremental exports were realised in 1997. The average rate of growth over the period was around 3%. Not only the growth of exports in dollar terms has been stagnant but the volume of exports has also increased marginally. 648 million square meters of fabric was exported during 1993, which increased, only by 2 million square meters in 1997, with an average growth rate of 4%.

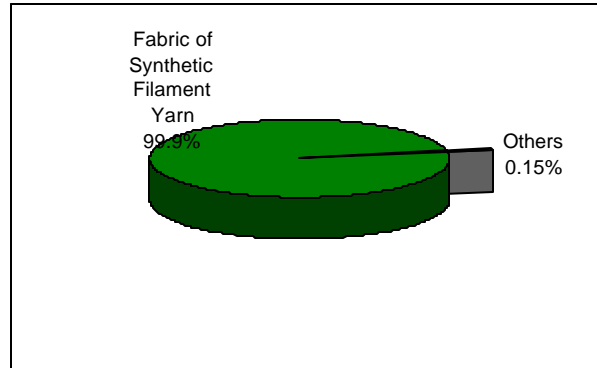
Figure 4.5.1: Pakistan Exports of Manmade Fabric



The reason for this slow growth can be associated with firstly narrow export base of synthetic fabrics and secondly the protection to the local manufacturers of synthetic as well as artificial fibres and filament manufacturers. The limited fabric, based on raw material type, seems to have restricted the growth in the manmade fabrics, as realised by other Asian competitors. Nearly all the manmade fabric exported from

Pakistan is manufactured from synthetic filament yarn. The usage of other artificial filaments and fibres is almost negligible in the fabric exports. With a limited product range it is impossible to continuously increase the value of exports. A narrow export base causes over dependence upon few products, making the exports vulnerable to international and local business cycles.

Figure 4.5.2: Pakistan Exports of Manmade Fabric



The global export market of synthetic filament fabric is undoubtedly the largest, it has the lions share of 45% of the total exports. The remaining fabric types although individually have a limited market share ranging from 3% to 12%, as given in the product segment section. Combined together these fabric types constitute almost 55% of the total exports. The value of these exports is around US\$ 13.4 billion, compared to a US\$ 11 billion market of synthetic filament fabrics. In order to expand the product base of manmade fabrics, usage of various other fibres has to be promoted. Countries like Korea, with the major share in global exports, have established specialised facilities to develop different synthetic materials and fabrics which has enabled them to maintain their market share.

4.5.4.1. Manmade Fabric Product Mix of Pakistan

As given above the exports of manmade fabric from Pakistan include only fabrics manufactured from synthetic filament yarn. This was based on 4-digit SITC level, the details of which have been mentioned at the start of this section. When exports are observed in detail, at a seven digit SITC level it is observed that out of more than 50 fabric types, 98% of Pakistan's exports are under two fabric categories, i.e. SITC 6531709, synthetic fabric having 85% or more synthetic fibre/filament and SITC 6531809 synthetic fabric having less than 85% synthetic fibre/filament. Under the first category fabric with more than 85% synthetic fibre the total exports were US \$ 265 million and the quantity of fabric exported was 315 million square meters. Whereas in the second category the volume of fabric exports was 185 million square meters, with a value of US \$ 163 million.

The overall exports of synthetic/artificial fabric seem to have decreased to a great extent. During 1997 Pakistan exported US \$ 567 million worth of fabric but it has declined considerably to US \$ 434 million during 1998-99. This translates into an overall decrease of 24% in the export value of fabric. This to some extent is consistent with the global export market, which is showing a declining trend in the value of exports for the past few years. But at the same time it was also observed despite a decline in value of exports the quantity of fabric exported has either remained constant or in some cases increased. Whereas for Pakistan not only the exports of synthetic fabric have declined but the total volume of exports has also declined. During 1997 650 million square meters of fabric was exported which declined to 506 million square meters in 1998-99, registering a decline of almost 23%.

Table 4.5.1: Synthetic Fabric Exports of Pakistan

SYBTHETIC FABRIC EXPORTS OF PAKISTAN SITC (6531709) FAB SYNTH TEXTILE 85% OR MORE NS SQM						
	1998-99			1997-98		
	Quantity (sqm)	US \$ millions	% age Share	Quantity (sqm)	US \$ millions	% age Share
UNITED KINGDOM	39,060,093	34	13%	68,070,994	59	14%
USA	39,553,140	30	11%	80,146,165	54	13%
DUBAI	27,085,494	27	10%	28,740,616	27	6%
BELGIUM	29,588,980	22	8%	55,228,561	45	10%
SPAIN	26,828,814	21	8%	36,448,589	31	7%
ITALY	20,205,436	13	5%	68,482,164	37	9%
SAUDI ARABIA	11,834,596	10	4%	25,925,494	21	5%
SOUTH AFRICA REP	8,410,111	7	3%	11,334,713	11	3%
GERMANY	6,041,009	7	3%	6,098,944	6	1%
BANGLADESH	7,538,818	5	2%	9,626,382	7	2%
OTHERS	99,363,272	89	34%	141,883,753	129	30%
TOTAL	315,509,763	265		531,986,375	427	

It can be observed in the accompanying tables that in all the importing countries the exports of synthetic fabric has not only declined in terms of value but there is a significant decrease in the volume of exports. For instance the United Kingdom, which is the largest importer of synthetic fabric (SITC 6531709) from Pakistan, imported US \$ 34 millions worth of fabric in 1998-99 which is 42% less than the imports in the preceding year, similarly the quantity of fabric imported also declined by the same proportion.

The category of fabric having less than 85% synthetic filament, which constitutes around 38% of the total synthetic fabric exports unlike the other one increased. The value of exports increased by US \$ 12 million against an increase of quantity to the tune of 10 million square meters. Except for the USA, Italy and Saudi Arabia, most of the importing countries recorded an overall increase the trade with Pakistan. Since the exports from this fabric type are much lower than the other category (SITC 6531709), the net impact on the exports was negative.

The global trade and production trends give a clear signal about the textile consumption pattern in the world, which obviously show a movement from cotton to blends and synthetics. Synthetic/artificial fabrics with their increased specialised (industrial) use are also becoming popular in clothing and clothing accessories. But the trade figures of Pakistan do not present a healthy picture, the global market of US \$ 26 billion is large enough to penetrate through focussing on the development of synthetic fabric in Pakistan. For this purpose special attention has to be given to facilitate the growth of industry in this direction by eliminating the impediments.

Table 4.5.2: Synthetic Fabric Exports of Pakistan II

SYNTHETIC FABRIC EXPORTS OF PAKISTAN SITC (6531809)						
FABRIC SYNTHETIC TEXTILE <85%NS SQM						
	1998-99			1997-98		
	Quantity (sqm)	US \$ millions	% age Share	Quantity (sqm)	US \$ millions	% age Share
UNITED KINGDOM	26,280,141	26	16%	20,818,705	18	12%
USA	29,475,613	20	13%	37,424,562	27	18%
DUBAI	17,354,820	18	11%	15,067,113	14	9%
BELGIUM	15,949,570	13	8%	11,336,560	10	7%
SPAIN	12,604,005	12	7%	9,663,772	10	7%
SOUTH AFRICA REP	10,082,340	8	5%	8,521,237	7	5%
AUSTRALIA	6,751,260	7	4%	6,636,282	7	4%
ITALY	8,436,190	5	3%	9,410,595	6	4%
CANADA	4,830,154	5	3%	3,931,665	4	3%
SAUDI ARABIA	5,654,664	5	3%	10,911,144	8	5%
OTHERS	47,619,884	44	27%	41,336,271	40	26%
TOTAL	185,038,641	163		175,057,906	151	

Other inhibiting factors include obsolete weaving technology and unavailability of raw material at international prices. The weaving of synthetic fabric in Pakistan is done on low technology power looms, with the inherent weakness of producing low quality fabric, additionally these machines have limited capability to handle complex fabric constructions. The competitors such as Turkey, Indonesia and Korea have invested heavily in the latest water jet weaving technology which has helped them grab and sustain the market share in the global exports. As mentioned earlier, most of these Asian countries are the main producer of synthetic and artificial fibres, which gives them competitive edge over others. Pakistan also manufactures manmade fibres but the industry in the country is protected to the extent that polyester filament yarn is 70% more expensive than the international prices. The table below depicts the level of protection provided to the manmade filament yarn manufacturers, which is self-explanatory. Here 'Denier' refers to the filament standards as 'Counts' is used for cotton and blended yarns.

Table 4.5.3: Protection on Polyester Filament Yarn in Pakistan

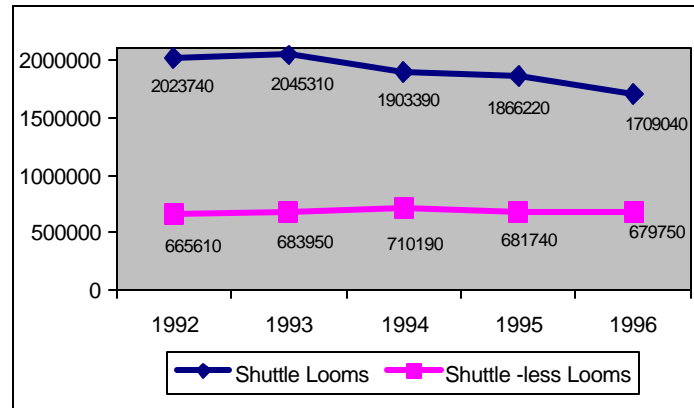
		150 Denier	75 Denier	50 Denier
C&F Price (\$/Kg)		1.17	1.20	1.35
Rupee Price		60.84	62.40	70.20
Duty @	25%	76.05	78.00	87.75
Sales Tax @	15%	87.46	89.70	100.91
Income Tax @	5%	91.83	94.19	105.96
Other Import Expenses @	3%	94.59	97.01	109.14
Market Price of locally produced Yarn	Rs	103.6	105.26	123.45

Almost all the manmade fibres and filaments enjoy a similar protection level in the country which, undermines the competitive advantage of Pakistan and hampers the industry growth. According to international surveys and estimates the prices of manmade fibres and filaments are likely to fall further in future. The main reason is the installed excess capacity in the Asian region including China, Taiwan, Korea and India. If the protection from the sector in Pakistan is lifted or gradually phased out it will definitely benefit the artificial fabric weaving industry which will not only invest in new equipment but will also broaden its product line through the use of different fibres and filaments.

4.6. Global Growth of Weaving Industry

Globally there is an apparent shift of weaving technology, from shuttle weaving towards shuttle-less weaving. The shift is very much in accordance with the increase in world demand of clothing that requires high-density fabrics. The quality of fabric required for manufacturing a diverse range of women and men apparel can only be efficiently produced on shuttle-less looms.

Figure 4.6.1: Global Growth of Weaving Industry



The total number of looms as estimated by ITMF in 1996 was 2.38 million. The split of shuttle and shuttle-less looms was 71.5% and 28.5% respectively. Although the shuttle weaving technology still dominates the overall number of installed weaving machines, but a process of shuttle weaving machines phase out is evident from a five-year trend. The shuttle loom population has been decreasing at an annual average rate of -4%. The total number of shuttle looms was more than 2 million in 1992 that declined by almost 15% and during 1996 the world population of shuttle looms was estimated at 1.7 million. The number of shuttle looms is slightly under estimated because currently India alone has around 1.5 million shuttle looms in its weaving industry and the weaving industry of Pakistan also has a significant presence of shuttle weaving, the number of such machines in Pakistan is around 0.2 million.

On the other hand the number of shuttle-less weaving machines have been consistently growing during the period from 1992 through 1996. The overall increase in the number of machines is slightly above 2%. An important factor that should be considered here is that the productivity of shuttle-less weaving machines is much higher than the shuttle machines, therefore the growth in shuttle-less weaving machines is not very high. Also a number of Asian countries, including Pakistan have replaced the shuttle looms with second hand shuttle-less looms imported from various countries. The data on shuttle-less looms might only be based on the number of brand new machines.

4.6.1. Regional Split of Weaving Technology

The production of fabric in the Asian region seems to be dominated by the shuttle weaving technology, with China, India and Pakistan as the key players. Overall the region accounts for almost 76% of the total number of shuttle looms in the world. As mentioned earlier that the data available from ITMF under reports the number of machines, the Asian region might well have a much higher share in the shuttle weaving machines.

The European and the Asian countries account for 42% and 35% of the world population of shuttle-less weaving machines. The indigenous regional production of shuttle-less machines is the driving factor in the growth. The European countries with manufacturers like Sulzer and the Asian region with Japanese manufacturers including Tsudakoma and Picanol have technologically helped these two regions to dominate the world shuttle-less weaving technology.

Figure 4.6.1: Regional Split of Shuttle Looms

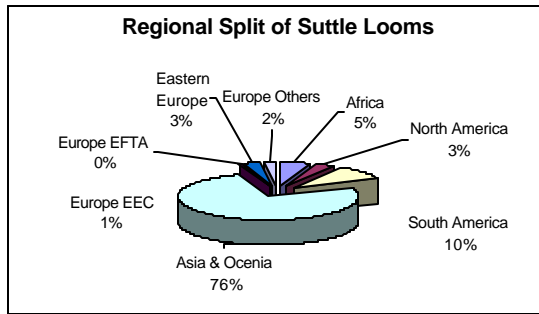
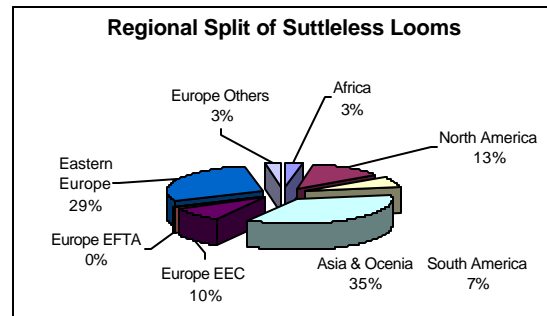


Figure 4.6.2 : Regional Split of Shuttleless Looms

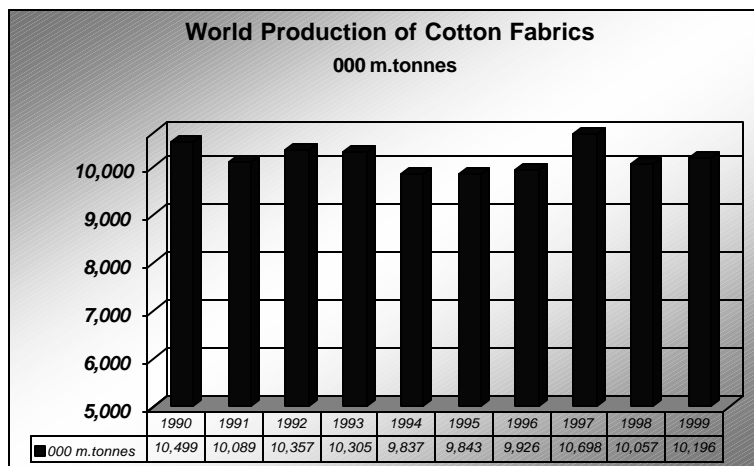


4.7. Global Production of Fabric

The latest world production figures for only cotton fabrics are available. Data on production trends of synthetic fabrics is unavailable. Since cotton fabrics comprise majority of the fabric exports from Pakistan, an analysis of the global production trends can provide important insights on Pakistan's position with regards to the other key players in fabric manufacturing.

The estimated global production of fabric is around 10.2 million metric tonnes. Assuming 200 gms/sq.m as the average weight of fabric, the total production is estimated to be slightly over 50 billion square meters. Surprisingly the world production of cotton fabric has been stagnant for the last 10 years, from 1990 to 1999, at this level. There has been a negative average growth of 0.2% over this period. The production trends of cotton fabric are in line with the global mill consumption of cotton, which also revolves around the 18.5 million m.tonnes level over the same period with the exception of seasonal fluctuations. Although demand for textile clothing should have a positive growth, considering the growth in world population, which is not supported by the global cotton fabric production. This is explained by the increased consumption of blended and manmade fabrics. The mill consumption of manmade fibres has increased over the same period which has enabled the textile weaving industry to develop a diverse range of fabrics through varied blending ratios. Details on the consumption of chemical and manmade fibres is given in the spinning section of the report.

Figure 4.7.1: Global Cotton Fabric Production



4.7.1. Region Wise Production of Cotton Fabric

4.7.1.1. Asian Region

The Asian countries have a dominating position in the global fabric production. About 65% of the global cotton fabric production is concentrated in the Asian Region. This region produced 6.5 million m.tonnes of fabric during 1999, which is approximately equal to 32.5 billion square meters. Within the Asian region China, India, Turkey, Pakistan and Indonesia account for almost 88% of the fabric production. The combined fabric production of these countries is 5.7 million m.tonnes. The overall increase in volume of Asian country fabric production is 6.5% over a period ranging from 1990 through 1999.

Figure 4.7.1: Regional Fabric Production

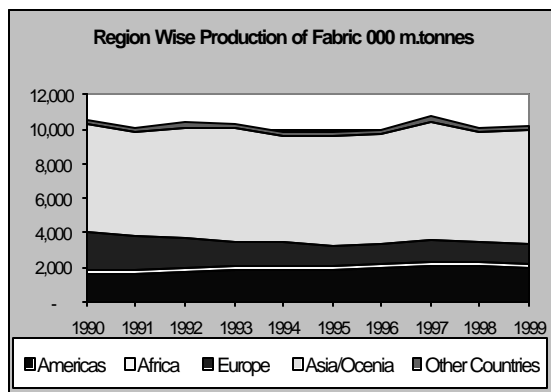
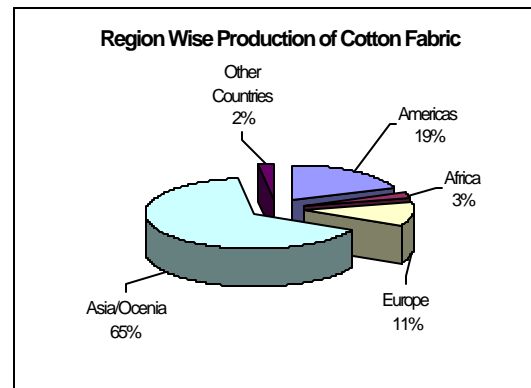


Figure 4.7.2: Regional Fabric Production



4.7.1.2. Americas

The Americas (including North, Central and South America) is another important region from the perspective of fabric production. It produces 1.9 million m.tonnes of cotton fabric accounting for 19% of the global production. Interestingly the developing countries are the major producer of cotton fabric in most of the regions. Although the United States of America constitutes 47% of the American region production, more than 50% of cotton fabric is manufactured by the developing countries. Mexico and Brazil, having a total production of 0.84 million m.tonnes produce 43% of the cotton fabric in the region. The rest of fabric is produced in small proportions by countries like Chile, Argentina, Columbia, Ecuador and Guatemala that account for another 10% of the region's production.

4.7.1.3. Europe

The production trends of almost all the fabric producing regions have more or less remained at the same level during 1990 through 1999. Only the European region shows a decline of 49% in fabric production over this period. The fabric production has declined from 2.23 million m.tonnes in 1990 to 1.15 million m.tonnes. This region currently accounts for 11% of the global production. Out of the total European production of 1.15 million m.tonnes, the Central European countries account for almost 59%, with a total production of 0.7 million m.tonnes. The prominent fabric producing countries include France, Germany, Italy, Spain and Portugal, which collectively constitute 82% of the Central Europe's fabric production. The Eastern European countries contribute only 12%, 0.13 million m.tonnes, to the total cotton fabric production of Europe.

Global fabric production statistics distinctly indicate that there is a shift of cotton fabric production from the developed countries to developing countries. Mexico and Brazil mainly drive the growth in fabric production in the American region. In the Asian region the countries which have realised tremendous growth include India, Pakistan and Indonesia. Whereas, most of the developed European countries including Germany, France and Italy depict a decline in their fabric production. Being the major producer

in the European region, a decrease in the production of fabric has resulted in the overall decline in production of the European region. This effect can also be observed in the figure, which shows that there is a marked decrease in the production of the European region. The net decrease in production is 1 million m.tonnes, while the exports of the Asian and the American region (mainly Brazil and Mexico) have increased by 0.75 million m.tonnes during the same period.

4.8. Major Cotton Fabric Producing Countries

Figure 4.8.1: Global Fabric Production

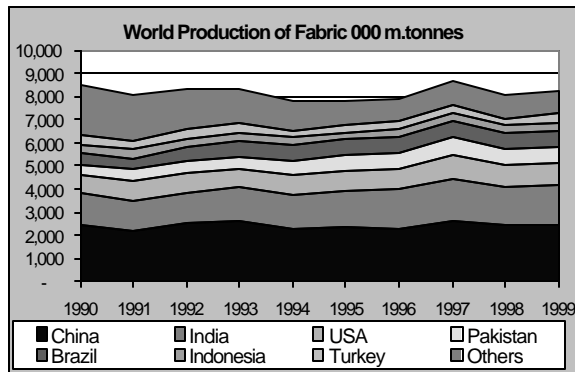
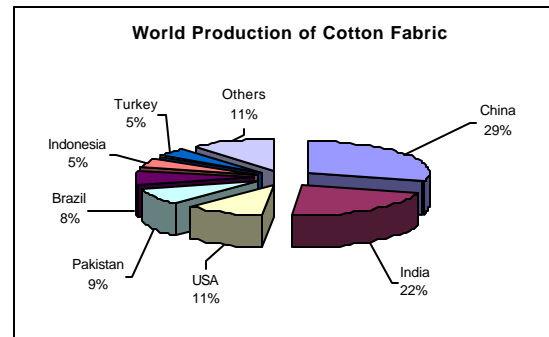


Figure 4.8.2: Major Producers of Cotton Fabric



4.8.1. China

Very similar to fabric exports, China also has a dominating position in the world fabric production, being the largest manufacturer of fabric. It controls 29% of the global fabric production. China's fabric production is 2.43 million m.tonnes, which is equal to 12 billion square meters. The fabric production has remained unchanged during a period of ten years from 1990 through 1999. The average growth in production has been around 0.3%. It does not in any way mean that China has been unable to develop its weaving sector. The flip side of the picture reveals that China's production of chemical fibre yarn has increased from 1.6 million m.tonnes in 1990 to 4.2 million m.tonnes in 1999. This four times increase in production of manmade fibres definitely has facilitated the growth of weaving industry in the blended as well as synthetic fabrics, therefore the production of cotton fabric has remained stagnant.

4.8.2. India

India is another vital player in the global fabric production with a 22% share. Currently the production of cotton fabric in India is 1.7 million m.tonnes, equal to 9 billion square meters. The production of fabric, over a period of 10 years, has increased by 31%. Even with such high production of fabric, India's total exports are to the tune of US \$ 1 billion, with a market share of 6%. The reasons for such low exports are associated with the high domestic market demand of fabric. India with a population of 1 billion people produces majority of the cloth to cater to the domestic consumption. The fabric manufactured also caters to the demand of high value added garments and made-ups sector.

4.8.3. United States of America (USA)

USA produces 0.91 million m.tonnes of cotton fabric, with a share of 11% of the global fabric production. As in most of the developed countries, the production of cotton fabric in the USA has also not shown any significant growth, rather it has been stagnant at this level for the last ten years. The average growth rate has been around 1%. The net increase in production is only 0.06 million m.tonnes. The USA also imports more than 2 billion square meters of cotton fabric. Although the fabric production in the USA has remained unchanged from 1990 through 1999, the cotton fabric production of only Mexico has increased 200% from 335 million square meters to 1 billion square meters, which refers to the shift of fabric production. The regional trade block, NAFTA has also helped Mexico to develop its textile industrial base.

4.8.4. Pakistan

Pakistan is fourth largest producer of cotton in the world, it also is the fourth largest producer of cotton fabric. The estimated share of Pakistan in the global cotton fabric production is 9%. The production has increased at a tremendous pace, it was 2.2 billion square meters in 1990, which increased almost 64% and currently is 3.6 billion square meters. This rapid increase in production is mainly driven by the growth of the shuttleless weaving industry in the country. Further details regarding the fabric production will be discussed in the industry structure of textile weaving in Pakistan.

4.8.5. Brazil

Brazil with 8% share in global production is the fifth largest producer of cotton fabric. Currently, Brazil produces more than 3 billion square meters (0.64 million m.tonnes) of cotton fabric. The production of fabric has increased by 32% from 1990, when the production of Brazil was 2.4 billion square meters (0.5 million m.tonnes). The growth pattern of weaving industry in Brazil is very similar to that of Mexico, although Brazil's fabric production capacity is three times than Mexico but the major importer of cotton fabric in both the cases is the USA. Both these countries also enjoy the benefit of cheap labour, therefore they are able to add value to their fabric through apparel manufacturing.

4.9. Weaving Industry Structure

In this section the existing weaving industry structure of Pakistan will be discussed. The focus will revolve around various industry segments in the sub-sector, the level of technology employed by them and the production of fabric. Various issues related to the product mix and quality will also be explained in the course of discussion.

The exports of fabric from Pakistan are characterised by low value added products, with an obvious disadvantage of a narrow product range. This coupled with the presence of domestic textiles in limited markets makes the textile industry vulnerable to global fluctuations and changing trends. All the trade data on fabric indicates a strong need to diversify the textile product portfolio across the value chain, in all the sub-sectors of textiles. This is also true for the weaving industry of the country.

4.9.1. Growth of Weaving Industry in Pakistan

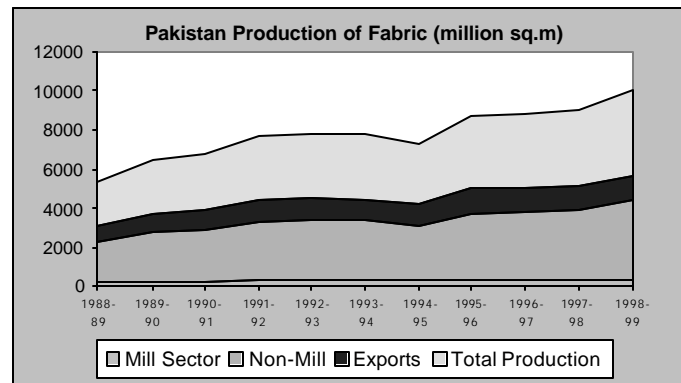
The thrust of the weaving industry development in Pakistan was led by the composite units. The composite units refer to integrated manufacturing facilities with in-house production capability of yarn spinning, fabric weaving and fabric processing. Some of the units also had their own cotton ginning facilities. As far as the weaving technology is concerned almost all these integrated units started manufacturing fabric with the power looms. The power looms even at that time reflected ancient technology, as the origin of the power loom technology goes back to the eighteenth century, first power loom invented in 1789. A vital breakthrough in the weaving technology was achieved in the year 1952 when the shuttleless loom was invented. This marked the beginning of another era of fabric construction and quality. In the early years of development it was not possible for the industry to opt for high tech, capital intensive equipment so the foundations of the weaving industry had to be laid on the power looms. Some of the independent weaving units, with the same power looms were also established.

The change in labour laws and other regulations in the textile sector in early 1970's discouraged the weaving in the integrated units and promoted the establishment of the independent weaving units having a set of four or more power looms. This is also evident in the production of fabric, during 1971-72, out of a total production of 1.3 billion square meters the mill sector (integrated units) produced 628 million sq.m whereas the production of the independent weaving units was 722 million sq.m. The production of the integrated units declined by almost 44% after a period of ten years (1981-82) and was at the level of 325 million sq.m. During the same period the production of the independent weaving units increased enormously to 1.87 billion sq.m, registering an increase of 160% over a period of ten years.

4.10. Production of Fabric

The estimated production of fabric in Pakistan during 1998-99 was 4.4 billion square meters. Around 1.3 billion sq.m of the fabric produced locally is exported, which accounts for 30% of the total domestic production. The total domestic consumption of fabric is estimated at 3 billion sq.m. The production of fabric has increased at a tremendous pace from 1988-89 through 1998-99, this can also be observed in the Figure 4.10.1 where the local fabric production is seen to have increased sharply. The growth in exports does seem to have kept pace with the increased production. The share of exports in production was 37% in 1988-89, which declined to 30%, although the volume of exports during the same period has increased by almost 57%. The main driver of this growth in production was the independent weaving mills, the production of fabric by the integrated units has remained stagnant during the past ten years.

Figure 4.10.1: Pakistan's Production of Fabric



4.11. Classification of the Weaving Industry

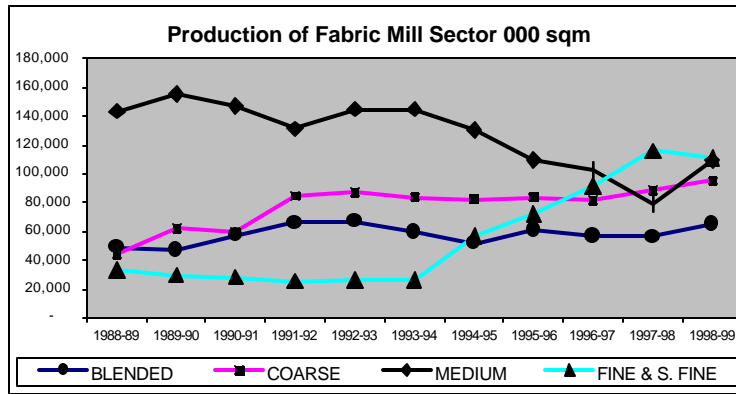
The weaving industry in Pakistan can be broadly classified into three main segments

1. Composite Weaving Units
2. Independent Shuttle less Weaving Units
3. The Power Loom sector

4.11.1. Composite Weaving Units (Mill Sector)

The composite weaving units, as discussed earlier, comprise of integrated textile mills having their own spinning and dyeing facility. These units are generally referred as the mill sector. The number of units having spinning and weaving is more than the ones with an additional dyeing and printing facility. A total of fifty-three such units currently exist. In the early years these units started the production of fabric with the power looms but upgraded their facilities through the induction of shuttle less rapier and projectile looms. The obsolete technology was replaced with high speed and efficient machines. The installed capacity of these units is 14, 130 looms, which also includes the old auto and power looms. The working number of looms in the sector is 6,211. With an increase in the installed capacity the production of cloth by these units is stuck at 380 million sq.m, which illustrates the fact that these units upgraded their facilities to improve the quality of fabric. Latest additions in these units is the induction of Air jet weaving machines with much high fabric weaving speed and low maintenance costs.

Figure 4.11.1: Fabric Production Mill-made Sector



4.11.1.1. Product Mix of the Mill Sector

A comparison of the weaving technology employed by the textile industry in general manifests the mill sector as the most advanced sector. Another reason for it being technically advanced is the capability to produce yarn of desired quality. Traditionally the mill sector has concentrated on the production of fabric based on medium count cotton yarns. The production of medium count fabric has declined almost 24% when observed over a period of ten years from 1988-89 through 1998-99.

4.11.1.1.1. Coarse Fabric

The production of coarse fabric in the mill sector has more than doubled during the same period. This increase in production is in line with the increase in the production of cotton yarn by the spinning industry. The majority of the spinning mills produce coarse cotton yarn (less than 20 counts) because of the optimisation of the spinning process at 20-count production. Although the quantity of coarse fabric has almost doubled during the period ranging from 1988-89 through 1998-99, the annual average growth rate has been around 9% for the growth in production of coarse fabric. Its share in the total mill production has increased from 16% to 25%, over a period of ten years.

Figure 4.11.1: Historic Production of Mill Sector

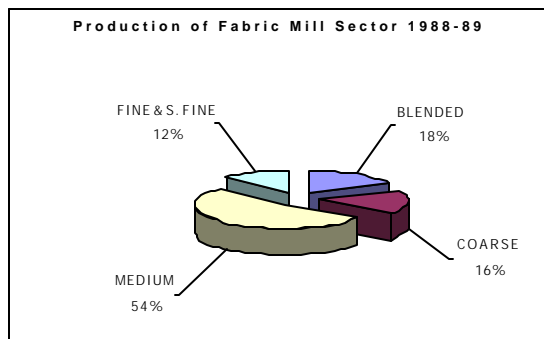
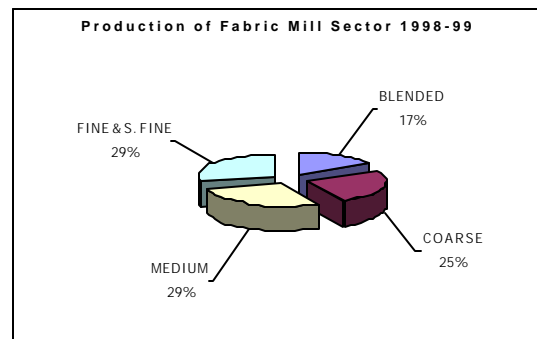


Figure 4.11.2: Fabric Production Mill Sector 1998-99



4.11.1.1.2. Medium, Fine and Super Fine Fabric

The medium fabric is based on yarn counts of more than 21 to the maximum of 34. The fine and super fine is manufactured by using cotton yarn counts of more than 34 count. The change in product portfolio can be observed for two fabric types i.e the medium counts fabric and the fine and super fine counts fabric. The switch of production becomes more evident from the year 1993-94 onwards, the production of medium

fabric starts declining and simultaneously there is an increase in the production of fine fabric. The reason for this switch in production is directly related to the fact that during the same year the export duty on cotton was removed and also the benchmarking system for cotton was also done away with. With the increase in raw material prices the mill sector, in order to increase its margins shifted towards the production of fine fabric using fine and super fine count cotton yarns.

The medium fabric had a total share of 54% in the production of fabric by the mill sector during 1988-89, which reduced to 29% in 1998-99. On the other hand the share of fine and super fine counts fabric increased by 17% over the same period. The decrease in production of the medium fabric resulted in increase of both the fine and coarse fabric. Resultantly the medium fabric which used to be the key driver of the mill sector is not the dominant fabric type anymore, under the existing scenario there is a move in the right direction but still the coarse fabric constitutes 25% of the total mill sector production. Given the fact that the mill sector is the most well equipped weaving sector, with modern weaving equipment.

4.11.1.1.3. Blended Fabrics

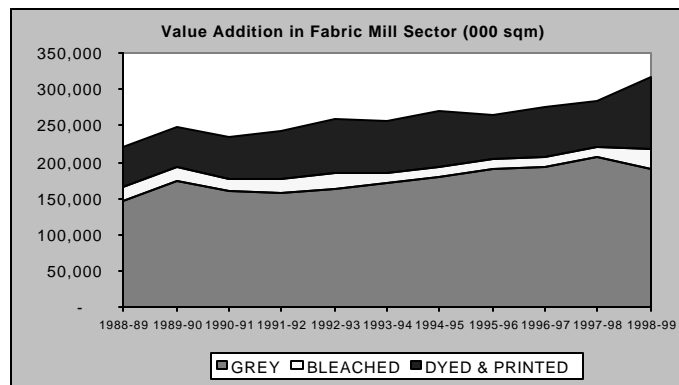
The major portion of the fabric blends manufactured locally includes, fabrics based on polyester-cotton yarns and polyester-viscose yarns. The usage of artificial staple fibre is limited to a couple of fibres even in the mill sector. Despite a shift in the global mill consumption patterns, there is no significant change in the production of fabric by the integrated units. The production of fabric has increased at an average annual growth rate of 3.5%, during a period of ten years from 1988-89 through 1998-99. The increase in quantity during this period is only 16 million sq.m of fabric. The blended fabric produced by the mill sector is usually print fabric used for the manufacturing of textile made-ups including bed linen, pillow covers and other home textiles.

4.11.1.2. Value Addition in the Mill Sector

The extent of value addition in the mill sector can be determined by analysing the split of unprocessed and processed fabric manufactured by it. Since the mill sector has the benefit of producing its own raw material (yarn) for weaving and to further process it most of the units also have processing facilities. The edge of the weaving sector besides the advantages of economies of scale and quality control, is the availability of modern weaving equipment.

It is disappointing to find out the fact that even in the mill sector, despite all the advantages, 61% of the total fabric production is in the form of greige fabric, without any processing. For a country, that exports 40% fabric without adding any value, it reflects the level of complacency on the part of exporters/entrepreneurs that have failed to market their products internationally. Although the share of high value added fabrics, high-density fabrics made from fine and super fine yarn count has improved, there is a consistent rise in the production of greige fabric. This trend can be observed in the Figure 4.11.1, which highlights the phenomenon of increased production of greige fabric with the increase in total production.

Figure 4.11.1: Value Addition of Fabric Mill sector



The processed fabric can further be divided into bleached and dyed and printed fabrics. The data set provides a lumped figure for the dyed and printed fabric, which constitutes around 31% of the total fabric production of the mill sector. The quantity of fabric produced is 99 million sq.m. The average rate of growth for the dyed and printed fabric category is 8%, over a period of ten years from 1988-89 through 1998-99. Bleached fabric has a meagre share of 8%. The change in overall product mix and increase in the degree of value addition in the sector can be gauged by the figures which show an increase of 7% in the share of dyed and printed fabrics from 1988-89 to 1998-99. Although this reflects a positive change but still the fabric production is dominated by greige fabric, which is as high as 190 million sqm.

The magnitude of the potential in the textile sector, to increase its exports, can be estimated simply by assuming the increase in processing of only 50% of total greige fabric (95 million sqm) manufactured by the mill sector to be exported as processed fabric. Only this small increase in total volume of fabric exports can earn additional US \$ 50 to \$ 75 million.

Figure 4.11.2: Production of Cloth 1988-89

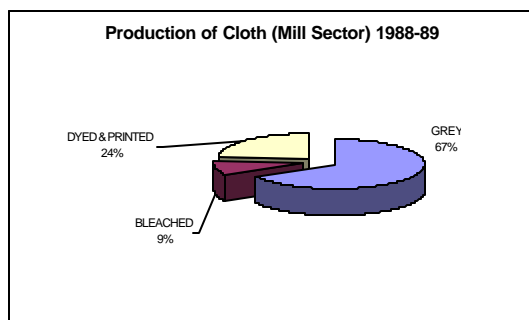
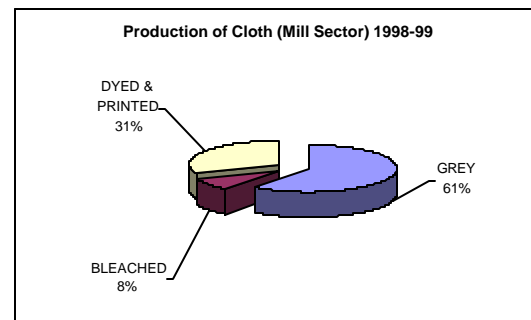


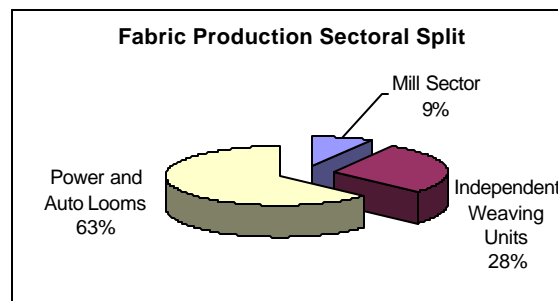
Figure 4.11.3: Production of Cloth 1998-99



4.11.2. Independent Shuttle less Weaving Units

The change in regulatory framework for industries discouraged the growth of integrated units and positively contributed towards the establishment of stand-alone facilities. The textile industry at one time considered being viable only with integration, realised that growth and economies of scales can be achieved more effectively by specialisation in processes. This facilitated the establishment of a new breed of stand-alone weaving units.

Figure 4.11.1: Fabric Production Sectoral Split



4.11.2.1. Level of Technology

According to estimates the number of such units in the country is more than 300. All of these units are equipped with shuttle-less weaving technologies, dominated by the Sulzer projectile loom, which constitutes almost 70% of the equipment installed in the sector. The working number of looms in the sector is approximately 14,500, out of which 5,500 looms are second hand, mostly imported from the European countries. The rest of the 9,000 looms in the sector include Sulzer projectile looms and rapier looms

manufactured by the Sulzer and other Japanese manufacturers including Tsudakoma, Toyoda and Picanol. Modern units in the sector have also inducted new Air-jet looms. The total number of Air-jet looms in both the mill sector and the shuttle less sector is around 3,000. The split of these looms between the sectors is not available but the majority of Air-jet looms are a part of the mill sector.

The shuttle-less looms have the capability of handling complex fabric constructions. These machines can make dense fabrics by using fine and super fine count yarns. Greater part of the fabric manufactured on shuttle less machines is either exported without processing (greige) or dyed, small quantity of this fabric is printed. The growth of this particular segment has played a catalytic role in the development of the processing industry in the country. These units created a demand pull, which facilitated the establishment of a number of processing units having state of the art dyeing and finishing facilities.

4.11.2.2. Production Capacity

The total fabric production capacity of this industrial segment is around 1.2 billion sqm, which is 28% of the total fabric produced in the country. Its share in the production of non-mill sector is 31%. Since the shuttle-less machines are capable of handling dense fabric, greater portion of the fabric manufactured by this sector is used for producing high value added apparel, including woven shirts and trousers. It can be safely assumed that this sector accounts for more than 40% of the total fabric exports, majority of which comprise of greige fabric. The reason for this is the lack of quality dyeing and finishing facilities in the country. A small portion of the fabric from this segment is exported as printed fabric. These looms also play a pivotal role in catering to the needs of the domestic apparel sector, which manufactures woven dress shirts and woven trousers.

4.11.3. Power Loom Sector

The power loom sector of Pakistan dominates the fabric production in the country. The firms from this segment are clustered in the city of Faisalabad. The number of looms in each firm varies from 4 to more than 50. The fragmented nature of the industry can be gauged from the fact that there are two industry associations, one representing the small power looms having less than eight looms and the other representing the fabric producers having more than eight looms. The power loom sector accounts for 63% of the total production of fabric. The sector produces fabric catering for the local consumption as well as exports.

4.11.3.1. Level of Technology

The fabric manufacturing through power looms is based on the technology invented in the year 1789. Since then there has been tremendous improvement in the weaving technology which after passing through the stage mechanical weft insertion has reached a stage of pneumatic weft insertion. Due to the capital-intensive nature of these high tech machines the focus of the local textile entrepreneurs has, in the past, remained on the power looms. The objective was to go for quantity and not for quality which has been ignored all along. This strategy enabled Pakistan to be amongst the top five fabric producing countries in the world, but as far the unit price realisation is concerned, in most of the cases the fabric is well below the international unit price average.

There are inherent weaknesses in the manufacturing capability of the power looms. These machines are capable of handling certain fabric construction. Whereas, the high quality dense fabrics, which are required in the manufacturing of high value added apparel, cannot be produced through these machines. The details on the quality of fabric and various fabric defects, based on technology will be discussed later. An upgraded version of the power looms is an auto loom, which has an auto cop changer with it. The benefit of the auto looms is reduction in the number of fabric defects and increased efficiency.

The growth in the power loom sector seems to have driven the development of local power looms in the country. Currently there are a number of local power and auto looms manufacturers in Pakistan. The local manufacturing of power looms assisted the sector through the indigenous production of wider width auto

looms in the country, resulting in increased efficiency and improvement in quality. Although this has played an instrumental role in the development of the sector, but it is still not sufficient to meet the international quality standards.

4.11.3.2. Production Capacity of the Power Looms

The installed capacity of the power looms is around 215,000. The estimated working number of machines is not more than 180,000, which also includes 20,000 auto looms. The total fabric producing capacity of these looms is estimated to be 2.8 billion sqm. This segment accounts for more than 50% of the fabric exports. A large portion of its total production also goes in the domestic fabric markets, for local consumption. Majority of this sector's produce is exported in the form of printed fabric. Due to a greater number of defects in the fabric, it cannot be dyed. The printing process has a masking effect on the fabric defects. This fabric is widely used in to produce textile made-ups, including bed covers, pillow covers and other products of home textiles.

4.11.4. Artificial and Synthetic Fabric Looms

The above mentioned classification of the woven fabrics was based on the cotton and blended fabric production. Another segment represents power looms, which produce synthetic and artificial fabric. This segment of industry has always been ignored. A number of research studies have been conducted on the textile industry of Pakistan, which do not contain a single line of information on this important area. The global trade in this segment is more than that of the cotton and blended fabrics. The competitors like Korea and Indonesia have developed this sector, realising the important role of synthetics in the years to come.

Currently an estimated number of 80,000 looms are associated with the production of synthetic fabric. Out of these only 40,000 are operational. More than 800 million sqm of fabric is produced annually by this sector. Instead of cotton and blended yarns, these looms manufacture fabric by using artificial filament yarn such as polyester, nylon, acrylic, etc. The drawback of this sector is again technology. In order to compete internationally modern Water Jet weaving machines, with the capability to manufacture diverse qualities of fabrics is needed.

4.12. Comparison with Indian Textile Weaving Industry structure

The Indian textile industry based on the production of fabric is more than seven times the size of Pakistan's weaving sector. The power loom sector dominates the weaving industry, the existing number of power looms is more than 1.5 million. This sector produces 21.3 billion sqm of fabric each year. The mill sector (integrated units) produces a total of 1.9 billion sqm fabric. The important feature of the Indian weaving industry is the product mix of fabric, which has a very large share of non-cotton fabric in it.

An important segment of the Indian weaving industry is the handloom sector, the production of this sector alone is almost twice than the whole fabric production of Pakistan. The non-cotton portion includes the fabric manufactured from manmade filaments, wool and silk.

Table 4.12.1: Indian Weaving Production.

India Textile Weaving Production (million sqm)					
	1994-95	1995-96	1996-97	1997-98	1998-99
Mill Sector					
Cotton Fabric	1262	1159	1222	1238	1220
Blended Fabric	745	602	488	466	460
100% Non-cotton Fabric	263	258	247	244	240
Total Mill Sector	2,271	2,019	1,957	1,948	1,920
Power Loom Sector					
Cotton Fabric	7,021	7,014	7,238	6,652	6,200
Blended Fabric	2,640	3,137	3,948	4,481	4,465
100% Non-cotton Fabric	6,315	7,050	8,166	9,818	10,655
Total Power Loom Sector	15,976	17,201	19,352	20,951	21,320
Hand Loom Sector					
Cotton Fabric	5,429	6,239	6,441	6,699	6,295
Blended Fabric	13	18	52	69	65
100% Non-cotton Fabric	738	945	963	835	810
Total Hand Loom Sector	6,180	7,202	7,456	7,603	7,170

4.12.1. Blends and synthetics

The production of blended fabric in the mill sector is 23% of the total fabric production. Although the production of blended fabric is 21% in the power loom sector, but the quantity produced is tremendous. There is a negative growth in the production of cotton fabric, which declined from 7 billion sqm in 1994-95 to 6.2 billion sqm in 1998-99, on the other hand the production of blended fabric increased by 70%, from 2.4 billion sqm in 1994-95 to 4.4 billion sqm in 1998-99. Similarly the production of non-cotton, which includes synthetic fabric, has also increased by almost 70% during the same period.

Similar trends can also be observed in the synthetic filament and staple fibre production in India, which seems to have triggered the growth of blends and synthetic fabric in the weaving industry of India. The total filament yarn production including nylon (apparel & industrial), and polyester during 1995 was 573 thousand m.tonnes, which increased by 70% within two years and during 1997 the production stood at 972 thousand m.tonnes per annum. Similarly over these two years, the production of staple fibre including polyester, polypropylene, acrylic and spandex fibres increased by 84%. It was 394 thousand m.tonnes in 1995 and during 1997 rose to 725 thousand m.tonnes.

Figure 4.12.1: Indian Product Mix Power Loom Sector

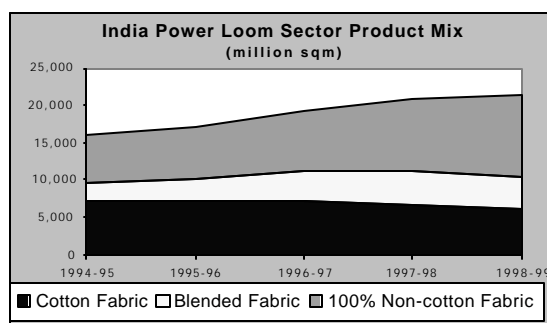
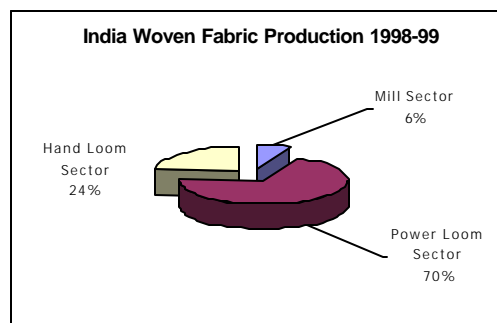


Figure 4.12.2: Woven Fabric Production of India



4.12.2. Technology

The Pakistan weaving industry has the benefit of independent shuttle-less weaving which has developed itself to contribute around 1.6 billion sqm of fabric combined with the mill sector production. The shuttle-less weaving production of Pakistan is only 18% lower than that of India, based on the assumption that the mill sector in India is equipped with shuttle-less looms. As major portion of fabric produced in India is targeted towards the low-end market, India has recently developed a mega-plan to upgrade its weaving industry, which entails up-gradation of power looms to auto looms and bringing in shuttle-less technology on a wider scale. For this purpose it has also established a Technology Up-gradation Fund (TUF), to facilitate a move towards higher technological orbit through subsidised credit, and reap the benefits of MFA phase out.

4.13. Quality Standards of Fabric in Pakistan

The quality of fabric is crucial as it determines the price tier in which the fabric will be placed in the international markets. On the basis of these standards the fabric is also classified as 'A', 'B' and 'C' grade. In this regard various testing standards constituted by Japanese Inspection Standards (JIS) and American Society for Testing and Materials (ASTM) are internationally used by the industry to grade fabrics.

Many factors in the weaving process have a direct impact on the quality of cloth. These include quality of yarn, type of machine, worker's skill, maintenance of equipment and the weaving back process (sizing and warping, etc). Some of the basic fabric faults are briefly discussed on the basis of which fabric grades are assigned.

4.13.1. Typical Fabric Defects

1. **Warp Marks:** Longitudinal stripes along warp way cause missing of warp ends.
2. **Mispick or Set Marks:** Stripes over full or partial width of cloth due to improper working of weft feelers, improper loom stoppage and negligence of weaver in case of power loom
3. **Varying Weft Density:** Inconsistent fabric thickness due to improper working of let-off motion or cloth take-up motion, faulty fork operation, improper loom stoppage, inaccurate setting of feeling device at loom start.
4. **Start up Marks:** Cross stripes in cloth width. Occurs in high-speed shuttle-less looms while producing light fabrics. Marks appear after stoppage of loom, widths are not connected to weft breakage.
5. **Irregular Pick:** Major causes of this fabric defect include variation in weft count, irregular operation of take up and let off motion or excessive play in sley mechanism and slacking of reed.
6. **Thin Places:** Fabric fault caused by low weft count, low tension on warp and improper setting of take-up motion
7. **Weft Bars:** Mostly the fault is caused by increased weft density and faulty take-up and let-off motion
8. **Floating Threads:** This occurs due to enlargement of broken warp end, unclear shed, knot with long ends on warp yarn, faulty operation of warp stop motion
9. **Bad Selvedge:** The reasons for the fault in fabric include, slacking of selvedge ends, improper winding of fabric edges on cloth roll, inconsistent warping, Incorrect weave of selvedge yarn in harness, improper drawing of selvedge ends and improper density of selvedge thread
10. **Over Shoots or Fluffing:** Caused by weft yarn which fails to interlace with warp and results in accumulation of fluff on weft yarn
11. **Sloughing of Yarn:** This defect in fabric is caused by excessive twist of weft yarn, insufficient moisture in the shed, weft winding with improper tension, harsh picking and shuttle rebound.
12. **Floating Warp Threads:** Caused by improper interlace of warp with weft due to slacking of yarn after drawing-in.
13. **Double Shots:** This refers to fabric fault due to missing weft yarn, caused by improper weft pick and faulty operation of weft feelers

14. **Broken Pattern:** Commonly occurs in dobby looms, caused by broken peg and improper shed broken warp ends
15. **Temple Mark:** Holes or surface disturbances along the selvedge of a fabric caused by the improperly adjusted temples
16. **Stains:** Different kinds of stains on the fabric result in problems at the processing stage. The stains include oil, grease, rust, dirt, carbon particles, etc. Clean environment in the weaving shed ensures stain-less weaving of fabric.

4.13.2. Fabric Rejection Rate and Grading for Exports

Since Pakistan has been there in the textile trade for the past fifty years, the industry has developed its own norms and defined ways to grade fabric by taking into account the buyer's specification. Most of the standards in practice have been defined by assigning a local name to the fabric faults.

Generally the fabric manufactures consider the low quality yarn and the use of poor weaving technology (power looms) as the main causes of all the fabric defects. Other factors such as weaknesses in back process and working conditions in the weaving facility are considered to have secondary importance in fabric quality. The discussion in the section is based on primary information collection from the textile industry.

4.13.2.1. Extent of Quality Standards and Rejection Rates

There are no proper standards and identification systems for the evaluation of fabric being exported. Internationally, proper ASTM standards are referred to when measuring the viability of an export order. For Pakistan exports, the method of evaluation thus adopted is to segregate the fabric on the type of machine it is produced upon. Rates are then fixed depending upon projected defect rates expected of such machines on a historic basis. Since it is very hard to check all the fabrics lot wise. The end usage also dictates the type of rates to offer.

4.13.3. Classification of Defects

The number of defects is classified into “major” and “minor” groups. In case of Grey fabric being exported, 10 major and 15 minor defects per 100-meter linear lengths is considered appropriate. However, if the customer is strict in his requirement for quality, even 2 majors over 100 lengths is a definite reject. The general fabric standards classification is presented in the Table 4.13.1

Table 4.13.1: Fabric Defects

General Categorisation of Defects by the Industry	
Major Fabric Defects	Minor Fabric Defects
Missed picks	Reed marks
Gout with trash	Tight Pick
Hole	½ Pick
Selvedge Marks	Gout without trash
Deep Holes	Barre
Smash	Warp streaks
Float	Stains

4.13.3.1. Machine Specific Defects

The fabric defects and the number of defects per linear meter of fabric are also machine specific. Cloth produced over different looms has the following defect rate percentages over a linear length of 100 meters.

The power looms, which are at the lowest rung of the technology ladder have the highest percentage of defects in the fabric produced.

Table 4.13.1: Machine Specific Defects

Machine Specific Defects %age	
Machine Type	% age of Defects
Power Loom	Over 25%
Auto Loom	13%
Shuttle-less Loom	3% and less

According to the industry sources, rejection rate of 7% is viable. More than that renders any export lot uneconomical. This rejection rate coupled by the savings in time of 3 hours for auto-changer over a plain power loom can then be converted into production gained. Similarly advance weaving technologies enable the industry to considerably reduce its wastage and increase efficiency, this coupled with a wider product range enhances the competitive advantage of the sector.

4.13.3.2. Fabric Standards and Value Addition

For Garments, and 30x30 / 108x76 –63” fabric, 1.25 meters length is required. If the numbers defective length over 100 meters is less than or equal to 5, then the cloth is considered acceptable. Similarly for the bed sheet clothing, 3m are the usable length. So if the rejection rate is more than 5 lengths per 100 meter, it is considered rejected.

It is clear from the feedback of the industry that our main competitors in this field are China and India. The fabric defect rate for these countries is almost the same as that of Pakistan, given that the weaving technology is the same. They however have the advantage of the variety of cloth offered by them due to use of shuttle-less weaving machines. One thing again has to be kept in mind and that is the defects are customer specific. As mentioned earlier, a minor defect for someone could be a major defect for some other customer like. This is true for the apparel buyers with stringent quality controls like GAP, Levis etc. The quality controls prevalent in the industry, enables the upstream sectors to

4.13.4. Mechanics of Fabric Grading in Pakistan

Industry Standards for our textile concerns generally follow JIS standard. Which goes as maximum 60 points per 100 linear meter. The ASTM standards follow 20 points per 100 square yards, which is again translated into 35 points per linear meter. So for countries following this standard of square yards is converted into the conventional method of linear meter.

4.13.4.1. Grading of Fabric

The grades are assigned to fabrics based on a set of criteria associated with the fabric widths. For 60 inch or less width cloth, 0.6 points per meter is considered A grade and is likely to fetch the highest price for the fabric in its class. Same as any country that is exporting any cloth having greater defects than that is relegated to B grade, and subsequently fetches lower rates. For cloth widths ranging from 61 inch to 102 inch, 0.8 points per meter are considered A grade cloth. Greater than that is considered B grade and or a reject. The terms for number of points that a fabric will qualify for rejection are contract specific and vary from buyer to buyer depending upon the end use of fabric. For cloth widths ranging 102” and greater 1 point per meter will be considered A grade cloth. Greater than that is considered B grade and or a reject. The terms for number of points that are rejected are again dependent upon the terms of contract with the buyer.

4.13.4.2. Fabric quality and Point System

In determining fabric quality, as mentioned above, the points assigned to fabric defects are based on the criteria which is takes into account almost all the variables including yarn quality and weaving process. The point system assigns weights to the impact of different factors influencing fabric quality

4.13.4.3. Quality of Yarn

Quality of yarn is of key importance in weaving. Due to variations and inconsistencies in yarn quality fabric of the desired characteristics cannot be produced. Various defects due to poor yarn quality are assigned the weights on the basis mentioned in the Table 4.13.1.

Table 4.13.1: Yarn Defects

Yarn Defects	Points
Thick / thin warp thread	1
Thick / thin Weft thread	24
Mixed thread	2
Glout (Extra thread)	3
Coloring	28
Double Cone defect	27
Three plies in one	39
Count Variation	23

4.13.4.4. Weaving Faults

Certain defects in fabric are caused due to the weakness of the weaving process. Most of these defects are associated to the obsolete weaving technology, which refers to power looms.

Table 4.13.1: Weaving Defects

Weaving Faults	Points
Breaking thread	6
Floating Threads (Chappka)	7
Double Pick	9
Missed Pick	10
Shedding faults	21
Wrong filling	11

4.13.4.5. Mechanical Faults

The faults in the fabric caused mainly by inappropriate equipment handling and maintenance are referred to as mechanical faults. Certain machines have built in process weaknesses that also cause these defects in the fabric. The points assigned to different defects from mechanical reasons are mentioned in the Table 4.13.1.

Table 4.13.1: Mechanical Faults

Mechanical Faults	Points
Temple Marks	13
Torn Cloth	16
Oil stains	18
Reed Mark	14
Defective Selvedges	15
Dobby fault	19
Reed Cut	35
Lose weft	36
Guide Mark	17

4.13.4.6. Sizing Faults

Before the yarn is used for weaving, sizing material (PVA Poly Vinyl Alcohol) is applied to increase yarn strength and increased weaving efficiency. If the process is not performed appropriately it increase the number of defects in the fabric. The faults in the fabric arising due to weakness in the back process are assigned the following weightage.

Table 4.13.1: Sizing Faults

Sizing Faults	Points
Sizing stains	30
Lose threads	31
Sizing Coagulate	32
Sizing marks	40

4.13.4.7. Fabric Quality and Weaving Technology

Considering the mechanics of grading systems it would not be incorrect to say that fabric manufactured on power looms simply cannot meet the JIS standards, which are given above. The rejection rates based on these standards are as high as 25% in the power loom sector. Up-grading the power looms with an automatic cop changer can control the number of mechanical defects. The fabric rejection rate is also dropped to 13%.

Real improvements in terms of fabric quality are achieved through weaving of fabric on advance shuttle-less machines, these include, projectile, rapier and air-jet looms. The air jet looms are the state of the art weaving machines. Some of the salient performance and efficiency features of shuttle-less machines are:

- a. SULZER P7100, projectile loom has a rejection rate of 4.090% of the total production per day. (3 shifts and 89.7% efficiency), e.g. out of 300 meters produced per day per machine, roughly 12 meters will go waste.
- b. PSEUDAKOMA Air jet machines have a rejection rate of 0.623% over its production (3 Shifts and 96.7% efficiency) Out of 300 meters produced per day hardly 2 meter goes waste

Similarly Air jet looms manufactured by PICANOL have even better rejection rate of 0.154%. 0.46 meters are waste out of 300 meters production

The information regarding the performance of machines is obtained on the following factors

- a. The defect percentages are generally considered in terms of mechanical and weaving defects. The other defects are not particularly machine technology specific.
- b. The figures are for brand new machines kept under strict maintenance schedules at a modern manufacturing facility. Increase in defect rates with aging is roughly 1.5 to 2 % per 5 years.

Maintenance costs of projectile and Air-jet looms are compared by analysing the spares stores inventory for each type of machine. It was found that the spares inventory of projectile looms was 4 times higher than that of air-jet looms

4.14. Issues in Weaving Industry Development

During the course of discussion several factors have been discussed with regards to the problems faced by the weaving industry in general. Some of the very specific impediments, which hamper the development of the industry, have also been identified during this exercise.

4.14.1. Narrow Product Range

The production of fabric in Pakistan is limited to fewer fabric types. Even the mill sector, the most advanced sector equipped with air jet and projectile looms, has not been able to broaden its range of fabric. Under various categories such as coarse, medium and fine, only limited fabric constructions are manufactured and exported. The focus of manufacturing in the power loom sector is on sheeting fabric and that of shuttle-less loom sector on the shirting fabrics and twills. Other competing countries also manufacture these fabrics but with much diversified product portfolio. These countries have a wide range of fabric constructions to offer in the international markets.

4.14.2. Dependence on Cotton

The weaving sector of Pakistan has traditionally relied on the production of cotton fabrics. The international demand trends seem to have been ignored by the industry. The growth and market of global cotton fabric is stagnant. Whereas the production of blended fabrics has increased. As far as the blended yarns are concerned, Pakistan is the lowest among Asian countries, only 18% of the total spindle capacity is used for production of blends. Based on yarn production it can be estimated that the share of blends in total production of fabric is less than that in yarn, due to yarn exports. Even if it is assumed that the blends constitute 15% of the total production, it is also very low as compared to the competitors.

Pakistan has experienced tremendous growth in the exports of blended fabrics, the growth trends give a clear signal to further increase the market share of Pakistan through widening the fabric range.

4.14.3. Protection to Staple Fibre Industry

Although the import of polyester staple fibre has been allowed under the No Duty No Drawback (NDND) scheme by the Government, due to the cumbersome procedures involved the exporters generally avoid using these schemes. The duty on the import of staple fibre is 25% and the locally produced fibre is available at a price that is 50% higher than the international prices, this undermines the competitive advantage of the domestic textile industry. Only the composite units having their own spinning and weaving facility are able reap the benefits of NDND schemes, to some extent. The stand-alone weaving units thus have to pay a higher price on blended yarns.

Table 4.14.1: Protection on Staple Fibre Industry

Extent of Protection in the Staple Fibre Industry		
C&F Price (\$/Kg)		0.95
Rupee Price		49.40
Duty @	25%	61.75
Sales Tax@	15%	71.01
Income Tax@	5%	74.56
Other Import Expenses @	3%	76.80
Market Price of locally produced Yarn	Rs/kg	73.6
Total Consumption (million.kg)		354
Difference between local and Imported	Rs/kg	24.20
Protection Rs. Million		8,574

It can be observed in the Table 4.14.1 that the annual protection to the staple fibre producers is around Rs 8.5 billion. This is based on the consumption of 354 million kgs of staple fibre during 1998-99. The high price of staple fibre has a direct impact on the cost structures of the spinning industry, which supplies blended yarns to the domestic weaving industry. A high level of protection to the staple fibre industry is an impediment, which has retarded the weaving industry growth and has developed a high propensity to use cotton yarns.

4.14.4. Weak Synthetic and Artificial Fabric Segment

The global consumption patterns of artificial and synthetic filaments also suggest increase demands of fabric manufactured through these filaments. In the western countries, besides the specialised use of these fabrics as industrial garments and sports gear, a large proportion of winter clothing and high value added women apparel are manufactured by using synthetic fabrics. Countries like Korea, China and Indonesia have strengthened the weaving sector for the production of these fabrics. With an obvious advantage of raw material (filaments and texturised yarns) being locally produced by them. This problem can be overcome by enabling the industry to source synthetic filaments and texturised yarn at international prices. The existing situation regarding the protection to the industry is not very different from that of the staple fibre industry.

The average market price of locally produced filaments, in case of 50 Denier polyester filament yarn, is 75% higher than the international prices. The total annual level of protection is within the range of 3 to 4 billion. Although these can be imported by the weaving industry under NDND schemes but again it is difficult for the manufactures to use these schemes. Another reason for slow growth in the segment is again a narrow fabric range, as mentioned earlier that Pakistan's exports of synthetic fabric are only in synthetic filament yarn fabric and that too of polyester, the use other artificial filaments in not given any importance by the industry. This has kept Pakistan out of a major global trade market of US \$ 14 billion.

Table 4.14.1: Protection in Filament Yarn Industry

		150 Denier	75 Denier	50 Denier
C&F Price (\$/Kg)		1.17	1.20	1.35
Rupee Price		60.84	62.40	70.20
Duty @	25%	76.05	78.00	87.75
Sales Tax @	15%	87.46	89.70	100.91
Income Tax @	5%	91.83	94.19	105.96
Other Import Expenses @	3%	94.59	97.01	109.14
Market Price of locally produced Yarn	Rs	103.6	105.26	123.45
Total Consumption During 1999: 85,900,000Kg				
Price Differential Local & Imported	Rs	42.77	42.86	53.25
Protection Rs. Million	Rs	3,674	3,682	4,574

4.14.5. Low Value Addition

Not only the weaving industry is confronted with the problem of a narrow product base the industry is unable to add value to existing products. It is for this reason that more than 40% of the exports are that of unprocessed fabrics. There is enormous room for improvement in the export performance through value addition. The major area of concern is quality. Internationally Pakistan has been competing on price, without giving any attention to quality and its importance to build market perception. This phenomenon is also reflected in the low unit price realisation of fabric. Pakistan is branded as a low-end supplier of textile products. This is even the case with the apparel sector, which has failed to create a demand-pull for the weaving and processing industry to produce high quality fabric by using different fibres (cotton and blends) and finer count yarns.

4.14.6. Quality of Yarn

Due to the absence of cotton and yarn quality standards, good quality fabric cannot be produced at the weaving stage, which can be further dyed to add value. Contamination in cotton is the major impediment in fabric processing particularly the polypropylene particles in the yarn mar the fabric quality by becoming more prominent after dyeing and processing. Inconsistency in yarn also has its toll on fabric quality.

4.14.7. Processing and Finishing

Processed fabric, in the form of bleached, dyed and printed fabric constitutes the largest segment of global fabric trade. The total market for only cotton and blended fabrics is greater than US \$ 12 billion. Due to the weaknesses of the processing industry, unprocessed fabric dominates the product portfolio of Pakistan's fabric exports. The low quality fabric is usually printed. It is not advisable that the exports of printed fabric should be discouraged, this particular quality of fabric has developed a niche for itself and is a major foreign exchange earner. Simultaneously the dyeing technology should also be developed to increase the share in the global markets. A wide range of finishing processes is nowadays also required to add further value to fabric. Mostly the modern processing and finishing industry in the country is comprised of large-sized units, with a production capacity to process more than 100,000 meters of fabric per day, to process short runs on commercially viable basis medium-sized processing units are required. These stand-alone commercial processing units are likely to process short runs required by the apparel industry and also encourage value addition in the domestic fabric.

4.14.8. Human Resource Development

The most crucial factor in value addition is the development of human resource. Currently the fabric processing industry in Pakistan is dominated by dyeing masters who have no formal education in textile processing. They have developed their skills over years. Most of these skilled workers are not aware of the latest developments in their field. Whereas, in competitor countries the skill of fabric processing and finishing is transferred through training on state of the art equipment and modern facilities. This requires restructuring of the industry on modern lines so as to enable the processing and finishing segment to not

only cater to the needs of the local apparel industry but also increase the share of processed fabric in the total exports. In this regard the existing training facilities would also have to go through a revamping process by updating their syllabi bringing it in line with the current and future industry requirements.

4.14.9. Technology

The fabric production scenario in Pakistan is dominated by the power loom sector, which accounts for almost 63% of the total production. The manufacturing capability of these machines is limited to the production of low-density fabrics as mentioned earlier. Though this sector consumes a major portion of blended yarn (polyester/cotton), used to produce sheeting fabric targeted towards the low-end market. Further value addition through producing fabric that is required by the apparel sector is not possible unless there is a technology shift. The wider width, high-speed (high PPM, picks per minute) shuttle-less looms have the capability of producing high-density fabrics. Modern air-jet and projectile looms equipped with Computer Aided Manufacturing (CAM) facilities that enable the machine to handle complex fabric constructions including dobby and jacquard, without compromising on quality.

Similarly for synthetic fabric production power looms are used, whereas to meet the international demand of apparel manufacturers, high-speed water jet looms are required. Currently there are around 300 water jet looms in the sector. To further increase penetration in the international apparel market by focussing on the woven women apparel and to sustain the market share, technology up-gradation in the sector is required

4.14.10. Export Markets and Pakistan

A quantum leap in exports of textile cannot be achieved only by modernising the weaving industry and optimising the product mix, due to a limited fabric market. The growth in the weaving industry is only likely to come from the development of a strong apparel and made-ups sector. Opening of trade for the apparel sector can have catalytic impact on the product mix of weaving industry.

Hong Kong for instance has a two pronged strategy it is a large converter of fabric into garments and at the same time serves as the global market place of fabric for international buyers. It also imports more than US \$ 200 million worth of fabric from Pakistan. Similarly US \$ 45 million worth of fabric is also imported by Bangladesh, this open trade policy of Bangladesh has created a demand for indigenous production of fabric through backward integration. Since Pakistan has a well-established weaving base it certainly has the potential to further broaden its product portfolio and improve the quality in the face of competition and increased domestic demand.

4.14.10.1. Competitors in Weaving

As mentioned in the industry structure section, our neighboring textile competitor, India, has the benefit of a diversified fabric production portfolio and it is also in the phase of developing the industry through massive up-gradation scheme. Similarly all the other competing countries including Bangladesh, Indonesia, Korea and Turkey also realise the importance of the year 2005 and have developed policies for backward and forward integration. Unless a structured approach of a consolidated development across the textile value chain is implemented, it would not be possible for Pakistan to benefit from MFA phase out. Incentives in the right direction, to promote value addition, and an environment of positive competition has to be developed in the country. No textile sub-sector and allied sector be allowed to grow at the cost of other sector.

5. Processing: Fabric Dyeing, Printing and Finishing

5.1. Introduction

Fabric manufactured through weaving or knitting cannot be used directly for conversion into garments and made-ups in that form. It has to be brought into a refined state thereby making processing as one of the most vital links of the textile value chain. Processing includes bleaching, dyeing, printing and finishing of fabric, that adds tremendous value to it. The fabric after processing is converted into garments and a wide range of textile made-ups. The development in this sector in Pakistan started picking since 1978 when Government facilitated imports with tax reforms. The investments made after that era were mainly for technological up-gradation of the obsolete installed processing equipment. But despite all those investments, processing remains the weakest link in the entire textile value chain.

Although Pakistan occupies a dominant position in the low cost and low quality cotton fabrics market, which is world largest market, its share in finished cloth market is only 3% of world total trade. With the growth of shuttle less weaving in the country, Pakistan has become a major supplier of greige fabric to the world. The break up of Pakistani fabric exports show that a major chunk of exports (More than 40%) consists of unbleached fabric. Only 14% of Pakistan's exports are in the category of dyed fabric.

5.2. Processing Industry of Pakistan

According to Textile Commissioner's Organisation (TCO), there are some 601 Textile Processing Units, of which 30 units are a part of the integrated mill sector, and the remaining are independent commercial dyeing, printing and finishing units. Majority of these commercial units is of a smaller size having low technology dyeing processes. Still these units cater to the processing requirements of the low-end knitting and woven fabric manufacturers. Textile made-ups including bed-sheets, towels, etc also are processed by this segment. These small sized units also meet quite a decent proportion of local garment industry's demand of fabric processing.

TCO reports that production of processed fabric in 1997 was 3,460 million square meter of which was constituted by 2,700 million sq. m of cotton fabric and 760 million sq. m of synthetic fabric. About three fourth of the total cloth production was processed. The split of processing into dyeing and printing is:

a.	Dyeing	700 Million sq. m
b.	Printing	1,740 Million sq. m
c.	White Finishing	1,020 Million sq. m
d.	Total	3,460 Million sq. m

The industry has comparatively low daily outputs on average although independent finishing units have twice daily output on average compared to integrated units. The independent units are smaller in size and operate mostly on batch or semi-continuous processes and lack economies of scale.

The dyeing and finishing units have been categorised into three segments according to their potential to provide processed fabric to the garment sector.

Group 1: These are the factories, which have resources like management, technology and equipment to produce fabric for use in garments. The number of such commercial units is actually very low and the growth in this segment is too slow to cater to the increased demand as well as quality required by a dynamic apparel industry.

Group 2: This group includes units, which would require investment for modernisation and technological guidance. Within the existing structure of processing industry, this segment has a dominating position, which has to undergo massive overhauling so as to improve the overall quality of processing in the country.

Group 3: These factories are not able to process the short runs, as required by the garment industry. Being organised in terms of industrial scale, managerial policy and equipment to realise greater economies of scale, it is not commercially viable for them to process a wide range of fabric with different dyeing, printing and finishing requirements.

5.3. Geographical Spread of Textile Processing Units

The textile processing units are located in the vicinity of the cloth production industry with the concentration in and around Karachi, Faisalabad, Lahore and Gujranwala. The industry consists of both vertically integrated units and independent processing units. Independent units account for a major portion of the processing capacity.

5.4. Employment in Textile Processing

It is estimated that approximately 35,000 persons are employed directly or indirectly but the skill level is low and wage levels is also low. Textile processing units generally employ a limited number of dyeing, finishing and laboratory technicians. The bulk of the employment is unskilled or semi-skilled labour that are used as machine operators, material handlers and supervisors.

5.5. Process Flow of Textile Processing

The generic sequence of processes in a commercial dyeing unit necessarily follows the following sequence:

5.5.1. Greige Fabric Receiving

In the initial phase the greige fabric is inspected and graded on the basis of defects, after which similar grades are joined through sewing and sent for pre-treatment.

5.5.2. Pre-Treatment

Dyeing is a complex process based on numerous sub-processes. The extent of complexity varies, depending upon the type of the cloth to be processed and the end-use of a particular fabric. However, the generic processes are mentioned below.

- i) Singeing
- ii) Desizing
- iii) Scouring
- iv) Mercerizing
- v) Bleaching
- vi) Neutralizing
- vii) Washing/Drying

5.5.3. Singeing:

Through this process the loose fibres on the surface of fabric are burnt using flames, heated rollers or by means of infra red radiation. The variability in use of various singeing methods is fabric specific. For thicker and sturdy fabrics like denim, flame singeing is used. Fabrics of finer counts are either Processed through roller singeing or by infra red radiation.

5.5.4. Desizing:

At this stage all the sizing agents including starches and Polyvinyl Alcohol (PVA), applied during weaving, are removed. This process increases the permeability of the fabric. Desizing is done through different materials like any oxidative, enzymes or high temperature steam baths.

5.5.5. Scouring:

Scouring is an alkali wash to remove natural greases inherent in cotton fibre as well as artificial greases imparted during the weaving process. Scouring significantly enhances the fabric's capacity to absorb dyes. Sodium hydroxide (NaOH) is the most commonly used alkali for the process.

5.5.6. Mercerization:

This method is used to impart luster to the cotton fabric. It also helps increasing the uptake of dyes and tensile strength of the fabric. It is carried out by treatment with caustic soda, followed by washing, under stretched conditions.

5.5.7. Bleaching

This process imparts whiteness to the fabric by removing the tint, and also improves the feel of the fabric rendering it fit for further processing. During this process caustic soda and or peroxides are used to remove natural pigmentation, Sodium Hypochlorite is used for batch processes. Potassium Permanganate (KMnO₄) is rarely used since it imparts its own colour to the fabric.

At the end of pre-treatment, the fabric can be dyed or printed, depending upon the customer requirements.

5.6. Dyeing

Dyeing is the process of imparting color to the fabric so as to make it useable for final use in garments or made-ups.

Dyeing process can generically be of two types:

- a. Continuous Dyeing
- b. Batch Dyeing

5.6.1.1. Continuous Dyeing

This type of dyeing is usually preferred when long runs (10,000 meters or more) are to be produced. Dye quality in this process is more uniform in this case since the process is not halted to change or alter the recipe once introduced for one particular job. It is also more economical for longer runs since machines setup time is quite essential here.

5.6.1.2. Batch Dyeing:

This is usually used for shorter runs like 4,000 to 10,000 meters. Dyes used in these processes are also separate depending upon the shades required and also on the type of fabric strength involved.

5.6.2. Basic Machines Involved In Dyeing

5.6.2.1. Jiggers:

Jigger machines are essentially composed of two or five V-shaped troughs topped by rollers in line, depending upon the number of colors involved. These are mostly used for cotton dyeing and are recommended for sturdy fabrics.

5.6.2.2. Winch Dyeing Machine

This dyeing machine consists of a dye vessel fitted with a drive winch, which rotates and draws a length of fabric, normally joined end to end, through the liquor.

5.6.2.3. Jet Dyeing Machine

Jet Dyeing Machine circulates the fabric in rope form through a pipe by means of high-pressure jet of dye liquor. This machine is increasingly important in high temperature and synthetic fibres dyeing such as polyester fabrics.

5.7. Printing

Printing is a process of decorating textile fabrics by application of pigments, dyes or other related materials in the form of patterns. Printing essentially is a dyeing process for fabric, whereby the effects are “localised” instead of being “unlocalized” like in Dyeing.

5.7.1. Printing Styles

There are three generic styles of printing.

1. *Direct Printing:* In this method, coloured pastes are directly printed on the fabric
2. *Discharge Printing:* In this type, cloth is first dyed with a background colour that is later destroyed by a reducing agent carried in the print past. This leaves the discharged design white, on a coloured background. The print pastes however may also contain colouring matters, not destroyed by the reagents, thereby producing a coloured pattern instead of a white pattern.
3. *Resist Printing:* Here, the cloth is first printed with a substance called “resist” that protects the printed areas from accepting colour. When the cloth is dyed or pigment padded, only those parts that are not treated with the resist are dyed, giving a localised print effect. Tie and dye technique is the oldest form of resist printing.

5.7.2. Printing Methods

There are four generic methods of printing:

1. Block Printing
2. Roller Printing
3. Screen Printing
4. Heat Transfer Printing

In each of these processes, “application of colour”, usually in the form of a thickened paste is followed by “fixation”, usually by steaming or heating and then removal of excess colour by “washing”

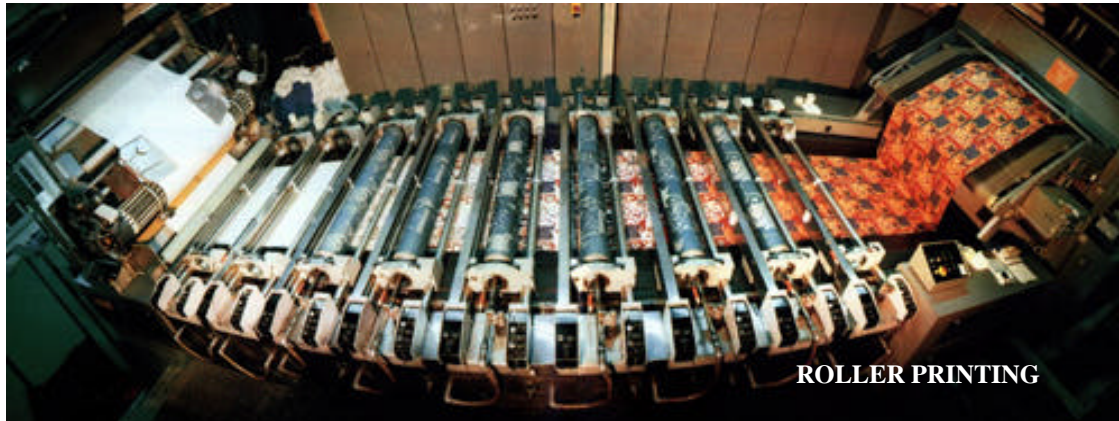
5.7.2.1. Wood Block Printing (Relief):

Relief printing from wood blocks (also known as woodcuts) is the oldest printing method. To prepare the wood block, the image is drawn in reverse on the plank side of the wood. All portions of wood are removed to a shallow depth, except for the lines of the image. When the block is completed, the image stands level in relief. The level surface is then inked and brought into contact with the paper. Characteristically, a woodcut image has heavy black lines that show little or no tonal quality. The heavy, uneven black frame around the image is also typical of early woodcuts.

5.7.2.2. Roller Printing:

This technique is used whenever “long runs” of fabrics are to be printed in the same design. The modern machine consists of large central cylinder, over which passes a thick endless blanket providing a roller support. Engraved printing rollers one for each colour press against the fabric as the central cylinder rotates. The pattern on the roller is etched on the surface of the copper shell supported by a mandrel. Finer the etching, better the printing. Each printing roller is provided with a rotating colour furnishing roll, partially immersed in a trough of a printing paste. The fabric then passes over “doctor blades” to remove excess colour, and over to the drying and steaming chamber for colour fixation.

Figure 5.7.1: Roller Printing



5.7.2.3. Flat Bed Printing

This is used for shorter runs, and is feasible for non-continuous processes. The process could be either plate immersed in print paste, or it can be screen-printing through a flat plate.

5.7.2.4. Screen Printing:

This may be a hand or a machine operation. It can be flat or rotary. Here, design is applied through a screen made of silk or nylon gauze stretched over a wooden or a metal frame, on which the design for one color has been reproduced. This is usually a “**photographic**” process. The screen is then placed over a table or a rotor ensuring accurate pattern fitting. Print paste is then poured on to the screen edge and then squeezed such that the color is then pushed through the open parts.

5.7.2.5. Heat Transfer Printing

The popularity of polyester fabrics has led to the development of a completely new form of printing termed as heat transfer printing. Pattern is first printed on a paper with carefully selected dyes. This paper is then applied to the fabric by passing the two together through a type of hot calendar and the pattern is transferred from one to the other. It is very helpful in making half tone effects.

5.8. Finishing

The term finishing includes all the chemical and mechanical processes used commercially to improve the quality of textiles and to make them more appealing to the consumer. There are many processes, but not all materials go through every one. Among them are preparatory treatments for enhancing appearance, or making fabric more appealing to the touch or for increasing the fabric life.

5.8.1. Preparatory Treatments

1. *Burling* is the process of removing such foreign matter as loose threads and knots.
2. *Mending* eliminates such defects as holes, tears, broken yarns, or missed warp or weft yarns.
3. *Scouring* removes oils, dirt, lint, and any residue of sizing compounds
4. *Mercerization* is a process applied to cotton or cotton blends to increase luster, to add strength, and to give the material an affinity for dyes. The process involves immersing the textile in a solution of caustic soda, which is later neutralized by an acid. In mercerization the fibers are permanently swelled.
5. *Drying* removes excess moisture by centrifuges or vacuum suction rolls. Any remaining moisture is removed by evaporation in heated dryers. Over drying is prevented by the careful control of temperature, humidity, and timing

5.8.2. Appearance Enhancing Processes

Napping may be applied to woolens, cottons, spun silks, and spun rayons to raise a soft, velvety surface. Passing the fabric over revolving cylinders covered with fine wires does it. The wires lift the short, loose fibres to the surface to form a nap.

Shearing cuts the raised nap to a uniform height. Shearing machines are much like rotary lawn mowers in their operation. Shearing may also be used to create stripes or other patterns by varying the surface heights of the cutting blades.

Brushing with bristle-covered rollers removes loose threads and short fibre ends. It may also be used to raise a nap on knits and woven fabrics.

Singeing, or gassing, produces an even surface by burning off projecting fibre ends and fuzz. The fabric is passed over a gas flame or heated copper plates in such a way that it is not burned or scorched.

Beetling produces a hard, flat, lustrous surface on cottons and linens. The fabric is dampened, wound around iron rollers, and pounded with wooden mallets.

Decating is a similar process as beetling applied to woolens and fabrics made of man-made and blended fibres.

Stentering, crabbing, and heat-setting are processes applied to set the warp and weft of woven fabrics at right angles to each other. Stentering stretches the width of the material on a frame and passes it through a heated chamber. When the process is applied to wet wool, it is called crabbing; when applied to synthetic fibres, it is often called heat setting.

Calendering is a process by which a fabric is passed through heated rollers to give it a flat, smooth, and glossy surface. It is not usually a permanent process.

Improving the feel of a textile involves the addition of agents for sizing, weighting, fulling, and softening. Sizing compounds include starches, gelatin, glue, casein, and clay. They form a coating around the individual fibers to give the fabric weight, crispness, and luster.

Fulling is a process that increases the thickness and compactness of wool by subjecting it to moisture, heat, friction, and pressure until shrinkage of up to 25% is reached. Softening involves the addition of dextrin, glycerin, sulfated oils, sulfated tallow, or sulfated alcohol.

Shrinkage control is achieved by compressive shrinking, the use of resins, or heat setting, depending on the fabric. Compressive shrinking is applied to cotton and cotton blends by dampening the material in a relaxed state to eliminate tensions and distortions. The damp fabric is pressed against a steam-heated roller covered with felt or rubber. Rayon and rayon blends may be preshrunk by the use of resins, which impregnate each fibre. Polyesters and nylon are stabilized by heat setting.

Crease resistance Fabrics can be made crease-resistant by treating them with synthetic resins such as epoxy or melamine.

Fire resistance To make a fabric fire-resistant, a finish must be added that will cut off the supply of oxygen near a flame.

Antistatic agents are applied to textiles during processing. Consumers can maintain antistatic quality in clothing by adding fabric softeners during laundering.

Waterproofing raincoats, umbrellas, and other textile products closes the pores of the fabric with insoluble metallic compounds, paraffin drying oils, and other substances.

Water-repellent finishes, in contrast to waterproofing, are not entirely resistant to water but make garments more comfortable to wear because the pores of the fabric remain open, allowing them to "breathe." Water-repellent finishes include wax and resin mixtures, aluminum salts, silicones, and fluoro chemicals.

Durable press is characterized by shape and crease retention, permanent pleating, permanently smooth seams, and the ability to shed wrinkles. Adding a chemical resin attains these qualities. The fabric is then dried and baked, or cured by pressing.

5.9. Current Technology Level of Pakistani Processing Industry

In Pakistan's processing industry, about 50% of the total installed processing capacity is more than fifteen years old and needs to be upgraded so as to enable it cater to demand of the growing made-ups and high quality garments segments.

5.9.1. Technical Problems in Processing

Absence of high technology machines make all these process highly skill dependent and experience of the worker suddenly becomes a deciding factor. In Pakistan, there is no end product consistency due to two main reasons:

1. Recipe formulation cannot be standardised due to lack of procedural documentation of processes employed for various fabrics
2. High level of involvement of human factor makes it almost impossible to have a consistent quality.

In case of singeing for example, bad or an old machine with worn down rollers will have a backlash in the whole setup, resulting in the fabric's dwell time over the flame to be slightly longer or shorter than required. As a result, the fabric would either be excessively flame singed or lesser flame singed. In either

case, in later stages, dye fixation on that patch will not be consistent since the fibres are not properly treated for optimum dye absorbency.

In dyeing, the process of dye fixation itself is the single most important requirement so as to have a consistent quality over the length of the run. In Pakistan, due to the absence of “continuous bleaching” process, problems are encountered in achieving homogeneity in dyeing process.

The manufacturers in Pakistan prefer “piece dyeing” which is a batch process actually for shorter runs instead because it allows stocking of white goods, reducing the risk of being overstocked with cloth dyed in specific colours and no demand or it or that which is left unordered.

The usage of these types of machines is fabric specific too, but the mere fact that in these machines only shorter runs can be produced make them highly inconsistent if another run of the same color is to be run. The recipe formulation next time around will not be the same as earlier due to the absence of exact control on so many deciding factors required for proper dye fixation. Like the exact amount of dye, and water to be consumed, temperature etc. these are again machine specific problems. In case of better machines with numerical inputs and PLCs for the control over these fabric specific requirements, these problems are reduced and in many cases eliminated and thereby eliminating the human error factor altogether.

In case of some older machines, photocells attached for alignment of fabric feed are missing. As a result, the whole length of fabric, either being dyed or printed gets out of alignment and the color or the print is out rendering the whole length as waste. This again could be machine specific as well as operator specific.

Working condition in processing industry is hazardous, since it involves extensive usage of chemicals. Dye stuffs, enzymes, catalysts and solvents are all poisonous in various combinations. Workers operating in such conditions passively lose their health as well as concentration. An example can be that in the bleaching area if adequate ventilation is not provided the smell of bleaching agents can create nausea, thereby reducing worker concentration as well as the causing discomfort.

The art of processing and dyeing is a century old tradition. Owing to a wide variety of fabrics and required finishes, the process itself has innumerable permutations and possibilities. Better machines and workers trained on these machines will ensure consistent quality, which can not be expected from an older setup. A newer machine with more automation rather than a machine in which an operator is looking after many variables will cater to more things.

5.10. Issues in Processing

5.10.1. Scarcity of Trained Manpower

Availability of trained manpower is a very acute problem of the processing industry. The industry is heavily dependent on the manpower which do not have proper theoretical training, and whose entire expertise has been derived from their experience only. Such a manpower is not capable enough to produce quality fabric according to the international standards. This is one of the major problems due to which Pakistani processed fabrics are unable to achieve good unit prices in the international markets.

Improperly trained manpower results not only in affecting the quality of the finished fabric, but also in lowering of production efficiencies. Pakistani processing industry is characterized by high levels of wastage percentages. Main reasons for this high level of wastage are inefficient processes, reworks and rejection of defective products at the time of despatch. Average product loss due to defect scrapping goes as high as 10%. Another inefficiency of the processing industry is in the form of higher product changeover times compared to the international standards which leads to dropped production levels. Along with decreased efficiencies, another problem of the currently available workforce in the processing industry is their limitation towards developing innovative products through new and improved processing techniques.

All of the above-mentioned factors ultimately result in eroding the competitive edge of Pakistani products in the international markets.

The purpose of all the above discussion is not to undermine the importance of experience of Pakistani manpower working in the field of processing. This critique is meant only for highlighting the fact that there is a strong need to blend this experience with formal education and training for improving the quality of final product.

The industry can achieve this objective through number of ways. For the new entrants in the field of processing, quality training institutes is the answer. Currently, most of the persons working in Pakistani processing industry have obtained education from Government Weaving and Finishing Institute, Shahdara, Lahore. The institute is very old and does not have proper equipment and trained faculty to train the students according to the demands of today's textile industry. It is the need of the day to establish a modern training institute that should be dedicated to processing only. The importance of processing as the most critical stage of value addition in the entire textile chain justifies such an institute. Technical and Vocational Training Authority (TEVTA) should be actively involved for setting up this institute. It should be established as a joint project of Government and processing industry. Once it is on the roll, its management should be handed over to the industry. Relevant industry association should be responsible for running the institute. Along with setting up this new institute, the existing training institutes in the county should also be improved.

For the manpower that is already working in the industry, efforts should be made by the industry itself to impart training to its manpower. Industry's manpower problems stem from the attitude that training is considered to be a cost and not an investment. In fact, manpower training should be viewed as a long-term investment. For training, major role should be played by the industry associations. The associations should conduct short training programs for its existing manpower. In this regard, bigger players in the industry need to take the initiative and bear the major chunk of the costs involved in this.

As a third step, international experts in the field of textile processing should be hired. The costs and services of such experts should be shared jointly by the companies involved in this venture. These experts should work in close co-ordination with the local manpower in all the areas of production and provide technical know-how for bringing the product quality in line with requirements of high value added finished fabrics markets.

5.10.2. Older Technology

Currently, major portion of the machinery in textile processing industry is older than fifteen years and a major investment is required to upgrade the technology levels. Textile Processing is a technology-oriented industry that makes it a very capital-intensive business. Import duties on machinery further increase the capital investment for setting up a processing unit. There is a need to facilitate the industry in having access to credit. This can be done through the scheme of providing credit where the amount of credit is linked to the past export performance of an exporter. The details of this scheme have been discussed in ----- portion of the report. Moreover, duty structure on imports of processing machinery needs to be rationalised.

Current investment in processing industry is biased towards printing, and the present capacity mostly meets the requirements of home textile products like bedwear. Weaving sector where major portion of fabric is woven on power looms sector is driving this trend. Fabric woven on power looms is of print quality because the inherent fabric faults of such a fabric are not very visible in printed cloth. If such a fabric is dyed, the faults become very visible thereby decreasing its value. For garments manufacturing, the required fabric is mostly dyed, and is manufactured in lesser quantities. Dyed fabric is a higher value added product compared to printed fabric and fetches a better price. There is a need that the major proportion of the new investment in processing should be directed towards dyeing instead of printing. This will not only enable the industry to meet the demand of the garments sector, but also improve the unit price of the fabric exported, as the percentage of dyed fabric in the total fabric increases.

Another requirement for manufacturing value-added garments and some home textiles like towels is dyed yarn. The current facilities of yarn dyeing are very small and new investment is required in this area also.

5.10.3. Increased Costs Due to Environment Considerations

The restrictions on the use of Azo dyes in E.U & USA have compelled the local processing industry for the use of European dyes and chemicals that are very costly. High import duty on dyes and chemicals has further increased the cost of these important inputs rendering the industry to a cost disadvantage situation against our competitors. Going in for cheap inputs from Countries like India and China, coupled with improper controls, results in variation of shades, inconsistency in quality, high rejection rates and increased cost.

5.10.4. Quality Control

Major portion of the processing industry is characterised by use of limited quality inspection and control mechanisms. Even if checks are used, they are at the stage of final product, and in-process quality checks are rarely employed. Mostly, the checks are not done as part of the regular process but are mostly driven by the customer's desire to do so. However, currently, there is growing trend in the industry to establish in house quality control laboratories. Laboratory equipment is very expensive and subject to import duty. Government needs to facilitate the availability of equipment for this.

5.10.5. Low Capacity Utilisation

Current capacity utilisation of processing industry is very low. The units that are operational are also not completely utilising their installed capacities. Running close to break even volumes decreases the profit margins and, in some cases, makes it difficult for a unit even to recover its fixed costs.

5.10.6. Utilities Unavailability

Water is the most important utility and is used very abundantly in textile processing industry. Availability of required quantity of water is an important problem of the industry. Along with the desired quantity of water, its quality has also to be good to be used for producing quality finish in the fabric. The severity of water problem is higher for the industry situated in Karachi. Any water treatment operation leads to increasing the overall processing cost.

5.10.7. Duty Structure

Dyes and chemicals constitute a major portion of the total processing cost. Local dyes manufacturing industry is protected through a duty on the imports of dyes. This duty should be reduced for the dyes that are not manufactured in Pakistan.

5.11. Dyes and Chemicals

Since dyes and chemicals form the most important input for textile processing industry, the analysis of processing cannot be complete unless one looks into dyes and chemicals industry. It is important not only from a quality angle but also from a cost angle since dyes cost is largest component of the total processing cost.

5.11.1. Types of Dyes:

Textile industry uses a large number of dyes and chemicals. Use of dyes depends on the type of material and the specific requirement to be met. For some purposes, high light fastness is required while for some it is not necessary. Basic criteria considered in dye selection include:

- a. Fastness to light
- b. Reaction to washing/rubbing “Crocking”
- c. Cost of Dyes and chemicals

Textile Dyes can be divided into the following generic types

- a. **Acid Dyes:** These are used mainly for dyeing wool, silk and nylon.
- b. **Direct or Substantive Dyes:** These are mostly used for cellulose fibres due to their strong affinity for these fibres.
- c. **Mordant Dyes:** These are the types of dyes that require the addition of chemical substances such as salts, to give them affinity for the material being dyed. They are applied to cellulose fibres, wool or silk after such materials have been treated to metallic salts.
- d. **Sulphur Dyes:** They are used to dye cellulose. They are classified as cheaper dyes but produce colours lacking in brilliance.
- e. **Azo Dyes:** They are insoluble pigments formed within the fibre by padding, first with a soluble coupling compound and then with a base.
- f. **Vat Dyes:** They are insoluble in water and are rendered colourless soluble compounds by the addition of alkaline Sodium Hydrosulfite. Cellulose absorbs these colourless compounds, which are subsequently oxidised to an insoluble pigment. Such dyes are colourfast.
- g. **Disperse Dyes:** These are suspensions of finely divided insoluble, organic pigments used to dye such hydrophobic fibres as polyester, nylon and cellulose acetates.
- h. **Reactive Dyes:** They combine directly with the fibre resulting in excellent colourfastness.

5.11.2. Dyes and Chemicals Industry of Pakistan

Dyes manufacturing industry in Pakistan comprises of units mostly of smaller size, and in the informal sector. According to the industry sources, total investment in this industry is Rs 3.0 billion. The industry does not manufacture all types of dyes. So the processing industry has also to rely upon the imported dyestuffs.

Table 5.11.1 and Table 5.11.2 ---- show the classification of dyestuffs that are manufactured in Pakistan and which are not manufactured in Pakistan. Dyes for which Pakistan has indigenous manufacturing are shown in Table 5.11.1 ---.

Table 5.11.1: Locally Manufactured Dyestuffs

Dyestuffs Manufactured in Pakistan	
Dyestuffs	HS Code
Disperse dyes	3204.1100
Acid Dyes	3204.1200
Direct Dyes	3204.1400
Reactive dyes	3204.1600
Pigments and their preparations	3204.1700

Source: Pakistan Dyestuffs Manufacturers Association

Table 5.11.2: Dyestuffs Not Manufactured Locally

Dyestuffs Not Manufactured in Pakistan	
Dyestuffs	HS Code
Vat dyestuffs	3204.1500
Vat soluble dyestuffs	3204.1500
Basic dyestuffs	3204.1300
Azo dyes	3204.0000
Sulfur Dyestuffs	3204.1900

Source: Pakistan Dyestuffs Manufacturers Association

5.11.3. Major Raw Materials for Dyes Manufacturing

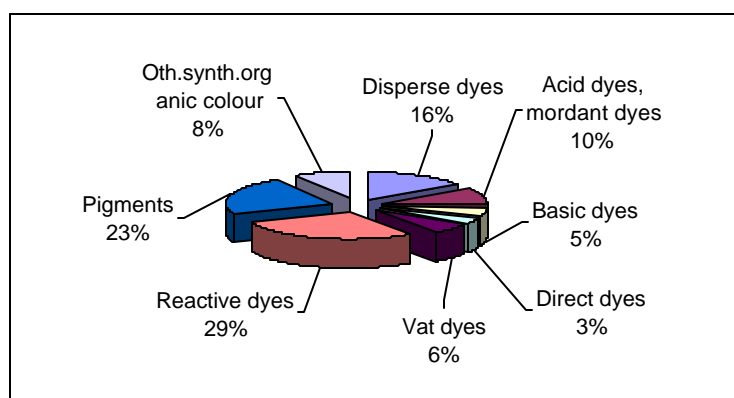
Dyes manufacturing industry use about 105 dye intermediates as raw materials for manufacturing dyes. Pakistan does not have basic chemicals manufacturing base. Most of the basic chemicals comes from a naphtha cracker plant which does not exist in Pakistan. The result is that most of these raw materials for manufacturing dyes are imported. Raw materials manufactured locally are:

- a. Hydrochloric Acid
- b. Ammonia Liquor
- c. Formaldehyde
- d. Common salt
- e. Soda Ash
- f. Caustic Soda
- g. Sodium Sulfate
- h. Sulfuric Acid

5.11.4. Imports of Dyestuffs

In 1997, Total import of dyes by Pakistan was worth \$75 million. These included almost all the important types of dyes. Major share of 29% of dye imports was constituted by reactive dyes. In 1997, 3.1 million kg of reactive dyes, having a value of, \$21 million, were imported into Pakistan. Pigment is the second largest import product.

Figure 5.11.1: Major Dyestuffs & Their Imports 1997



Looking into trends of dye imports, total imports of dyes declined over the period 1993-97. Average rate of decline in imports of dyes was 2%. Major decline was in the category of direct dyes. The imports of direct dyes declined at an average rate of 10%.

Almost 81% of the dyes imported into Pakistan are those which are manufactured in Pakistan. Larger processing units in the formal sector import good quality dyes to be used in the production process of high quality fabric. Locally manufactured dyes are mostly used by small and medium sized units that are in greater number. This behaviour of the larger processing units indicates that the quality and performance of the local dyes is lower compared to that of the imported dyes.

Pakistan's imports of dyes and chemicals from 1993 to 1997 are shown in Table 5.11.1. Since Pakistan's trade data is available under SITC codes, so these have been used for reporting the imports.

Table 5.11.1: Year Wise Imports of Dyes & Chemicals

SITC Code		1993		1994		1995		1996		1997	
		Value \$ M	Quant M kg	Value \$ M	Quant M kg	Value \$ M	Quant M kg	Value \$ M	Quant M kg	Value \$ M	Quant M kg
53111	Disperse dyes, etc.	15.9	2.0	12.7	2.1	11.7	2.0	12.1	2.1	12.0	2.6
53112	Acid dyes,	7.0	1.1	8.0	1.3	9.2	1.4	7.3	1.2	7.3	1.4
53113	Basic dyes, etc.	4.1	0.8	6.3	1.3	6.5	1.3	4.5	1.0	4.0	1.2
53114	Direct dyes, etc.	3.8	1.0	3.5	0.8	2.7	0.6	2.6	0.6	2.4	0.7
53115	Vat dyes, etc.	2.4	0.2	1.8	0.1	4.4	0.8	4.3	0.6	4.6	0.8
53116	Reactive dyes, etc.	23.1	2.3	17.7	3.4	19.6	2.4	21.6	2.9	21.4	3.1
53117	Pigments, etc.	17.1	3.0	19.6	3.7	19.9	3.2	18.3	2.9	17.2	3.0
53119	Other synth.	8.4	2.9	7.4	3.1	7.7	3.2	6.4	2.0	6.4	2.3

5.11.4.1. Pakistan's Trading Partners in Dyes Imports

Pakistan's major trading partners in dyes imports are shown in Table 5.11.1.

China Germany and India are major exporters of dyes and chemicals into Pakistan. In 1997, 53% of total dye imports into Pakistan were from these three countries. China is at the top, accounting for 20% of value and 32% of quantity of dyes imported into Pakistan. Higher share in quantity compared to that in value indicates that Chinese products are relatively cheaper. This is shown by Chinese unit price of \$3.0/kg that is lowest amongst its competitors. Looking at the five years trends of imports, imports of dyes from China are decreasing. From the level of 1995, there is a decrease, both in quantity and value terms. Unit price of China is also decreasing, as during 1996-97, there is an increase in quantity but no change in value.

Table 5.11.1: Pakistan's Major Trading Partners of Dyes Imports

	Value \$ Million	% Share in Total Pak. Imports	Quantity Million kg	% Share in Total Pak. Imports	\$/kg
Total Imports	75.2		15.2		4.96
China	14.7	19.6%	4.9	32.4%	3.00
Germany	13.3	17.7%	1.7	11.2%	7.86
India	11.3	15.0%	2.2	14.6%	5.07
Other Asia	7.6	10.1%	2.0	12.9%	3.88
Japan	5.4	7.1%	0.7	4.6%	7.60
Korea	4.5	5.9%	0.8	5.0%	5.94
Switzerland	3.7	4.9%	0.5	3.3%	7.30

United Kingdom	3.5	4.7%	0.6	3.6%	6.42
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Germany is the second largest exporter of dyes into Pakistan, with 18% share in terms of value, and 11% share in terms of quantity. There is not much difference in value of dyes imported from Germany and China, but there is a great difference between their quantities. Average import price of Germany’s dyes was \$7.96/kg that is almost double than that of China. A declining trend in unit price can be seen for Germany also, since during 1996-97, there is an increase in quantity coupled with a decrease in value.

India is the third largest exporter of dyes to Pakistan. In 1997, India accounted for 15% of the total dyes imported into Pakistan. Import trend is on a continuous rise. Average growth rate for five years has been 7% per annum. Average unit prices of India is \$5/kg that is higher than China’s and lower than Germany’s.

Form the above analysis, it can be inferred that Pakistani processing industry is moving towards using Indian dyestuffs. This is also shown from Indian market share trend that has increased from 10% in 1993 to 15% in 1997. Indian dyes are replacing German and Chinese dyes. Decrease in average prices of Chinese and German dyes can also be the result of competition from Indian dyes.

Figure 5.11.1: Imports of Dyes in Pakistan

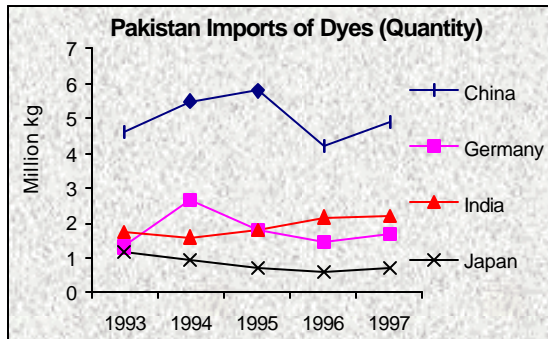
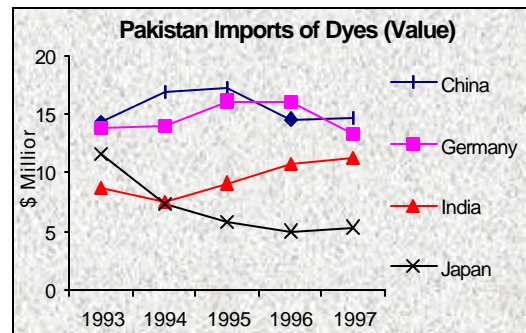


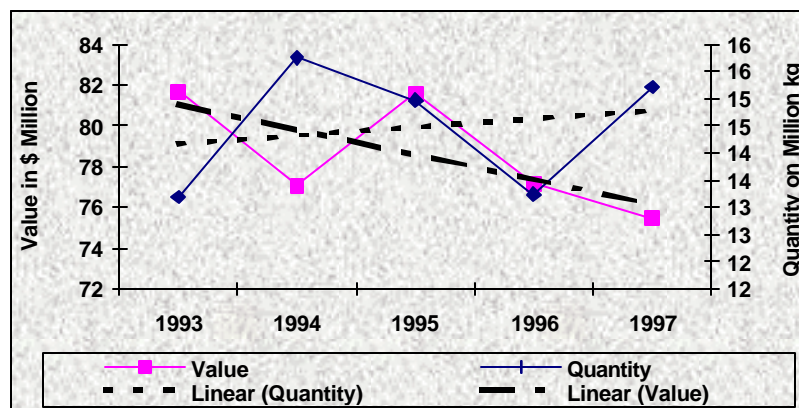
Figure 5.11.2: Imports of Dyes in Pakistan



5.11.5. Quality of Dyes imported

Figure 5.11.1 shows the relationship of value and quantity of dyes imported into Pakistan.

Figure 5.11.1: Imports of Dyes Quantity Vs Value



Imports of dyes into Pakistan show a wavy trend for both quantity and value. Looking at the linear trend lines, it can be seen that quantity of dyes imported is increasing while the import value is decreasing. If price is considered a direct measure of quality, it can be inferred that the quality of the dyes imported into Pakistan is decreasing. This is not a very healthy sign as use of low quality of dyes affects the final fabric finish and decreases its value. This can lead to further decrease for Pakistan’s unit price that is already very low amongst its competitors.

If price is not considered as a direct measure of quality, then this trend can be called healthy. It means that dyes of same quality are being imported at lower prices in each coming year. Foreign manufacturers are decreasing their prices due to the competition from the local dyes manufacturing industry.

5.12. Issues in Dyes Manufacturing

5.12.1. Rationalising the Duty structures

The imports of raw materials for dyes, which are not manufactured in Pakistan, should be allowed duty free. This will reduce the manufacturing cost of dyes thereby decreasing the fabric processing cost.

5.12.2. Quality Certification of Dyes

India and China are the major importers of dyestuffs into Pakistan. They have a competitive edge in the shape of developed basic chemicals manufacturing bases. Quality of the dyes and their compliance to environmental considerations is questionable. It is recommended that the quality of the dyes imported into Pakistan should be certified by any international agency. This will not only help the dyes manufacturing industry but also ensure that processing industry gets the quality raw material.

6. Textile Made-ups

6.1. Towels and Terry Products

Towel is an important product used in everyday life. Towels and its allied products constitute an important sub-sector of Textile sector. In made ups towels sub-sector is the second largest after bedwear in terms of production and exports.

6.1.1. Global Trade of Towels

World trade of towels is reported under different SITC codes. These codes are shown in Table 6.1.1 .For the purpose of analysis, all these codes have been summed together to get the overall picture of the world's trade of towels. In the later part, the trade under these individual codes has also been analyzed.

Table 6.1.1: Product Descriptions of Towels

SITC	Product
65212	Unbleached Terry Towels
65213	Other Terry Towels
65214	Woven Cotton Pile
65215	Other Woven Cotton pile
65847	Other Linen of Cotton
65848	Other Linen other Fabrics
65892	Cleaning Cloth

Total exports of towels in the world in 1997 were \$3.9 billion. There was a continuously increasing trend of exports from 1993 to 1997. The exports increased by 1.6 times in the given time period which translates into a compounded growth rate of 9.6% per annum. Although, the market is growing, but the rate of growth is at a decline. Comparing the growth rates for the four time spans between the given five years, it is found that for the two years from 1993-94 and 1994-95, the growth rates have been 16% and 22% per annum respectively. But for the periods 1995-96 and 1996-97, annual growth rates have been 7% and 5% respectively. That indicates a change in the trend.

Figure 6.1.1: Global Exports of Towels

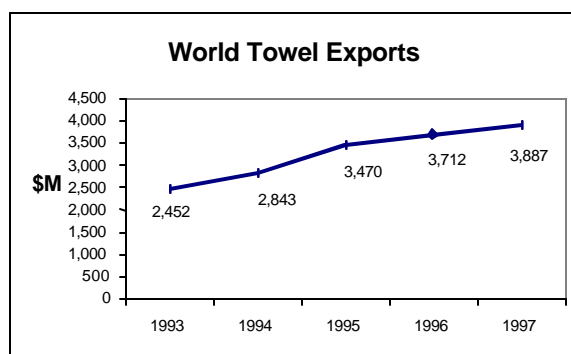
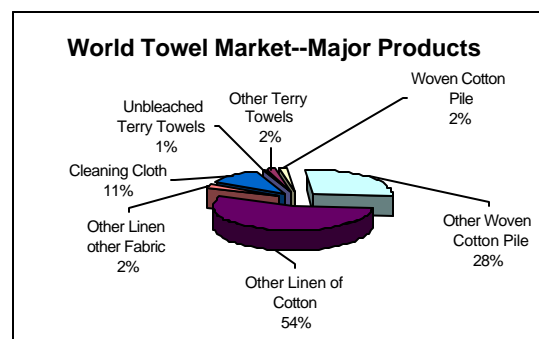


Figure 6.1.2: Major Products in World Towel Market

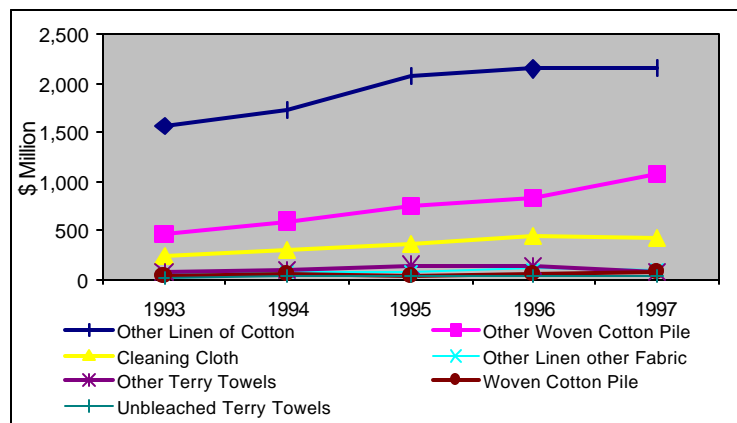


Looking at the Asian picture, in 1997, total exports from Asia were \$1.9 billion. This is 49% of the total global towel exports. Compounded growth rate of Asian exports was 12.4%, which is higher than world's growth rate. Asia is increasing its market share in towel exports.

Looking at the major products of towels, more than half of the total exports are accounted by just one category which is reported as SITC 65847 and named 'Other Linen of Cotton'. This includes cotton towels made on mill and on hand looms, toilet and kitchen linen of cotton & manmade fibres etc. In 1997, total trade under this category was \$2.15 billion and it accounted for 54% of the total global exports of towels. In 1993, towels exported under this category were worth \$1.5 billion with share of this product as 64%. This means that the export trend is shifting to other towel products and the share of SITC 65847 is being taken by the other towel categories. Average growth rate for this category has been 8% per annum during the period 1993-97.

SITC 65215 which is 'Other woven cotton pile' is the second largest category of exports and accounts for 28% of the total exports. There are two subcategories of this category, which are weft pile fabrics and warp pile fabrics.

Figure 6.1.3: Growth in Towel Exports



Total trade under this category was 470 million dollars in 1993, which made up 18% of towel exports. In 1997, the exports of this product were about \$1 billion, which means 28% of the towel market. The share of SITC 65847 is being taken away by this category. This trend can be seen in Figure 6.1.3 where the exports of 'other linen of cotton' are shown as tapering off from 1996 to 1997 while a major rise in the curve of 'Other woven cotton pile' can be seen.

6.1.1.1. Major Exporters of Towels

Figure 6.1.1 and Figure 6.1.2 show the major exporters of towels, their market shares and export trends during the period 1993-97.

China is leader in this business with exports of \$1 billion. Export trend shows a continuous positive growth during the five years and the slope of the curve shows that the rate of growth is much higher compared to those of competitors. All the competitors are located at the lower end of the scale in a clustered fashion with their curves showing small upward or downward changes. Whereas China's curve stands very distinctly and shows a major rise. China's compounded annual growth rate has been 16.7% for these five years. China is the main driver for increasing the share of Asia in the total global exports.

Figure 6.1.1: Towels Export Market Shares

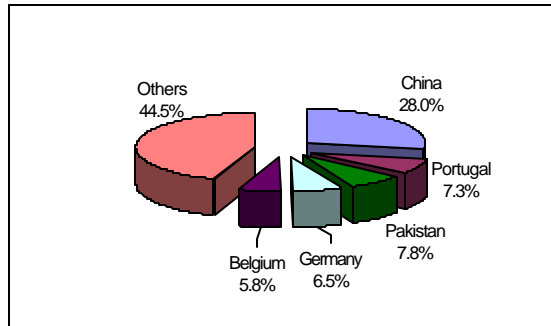
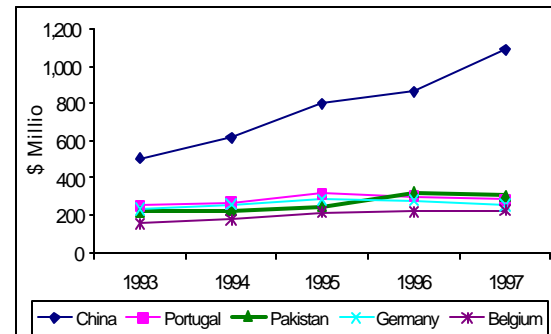


Figure 6.1.2: Export Trend of Major Towel Exporters



Pakistan holds second position in the global exports of towels with 8% market share. Total exports in 1997 were \$305 million. The exports continuously increased till 1996, which is followed by a decline in 1997. Pakistan used to be at fourth position in 1993 with Germany and Portugal having higher exports, but it improved its position in 1996. Compounded annual growth rate of Pakistan has been 7%. During these years, highest growth was recorded during the period 1995-96 when the exports grew at 30%.

It is surprising to note that there are only two Asian countries included in the list of top five exporters. India, which is the second largest producer of cotton is not included in the list of top towel exporters. India's exports of towels in 1996 were only \$20 million. One of the reasons for this is that Indian domestic market is quite large and most of the towels manufactured are consumed locally.

Other important Asian exporters include Turkey, Japan and Hong Kong. Turkey exported towels of \$251 million in 1997. The growth rate during the five years was 29% per annum. This is a very healthy growth rate. It can be easily predicted that with Turkey growing at this pace, will be eating up the share of the competitors and Pakistan will be an easy target compared to China. Japan and Hong Kong are smaller players with exports of \$54 million and \$40 million in 1997. There has not been any major change in the exports of these two countries in five years.

6.1.1.2. Major Towel Importers

Figure 6.1.1: Major Importers of Towels 1997

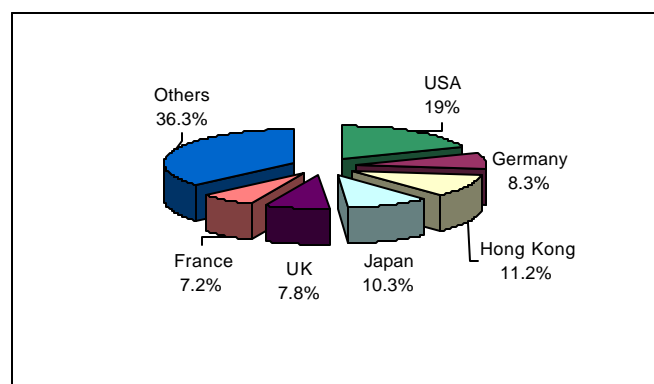


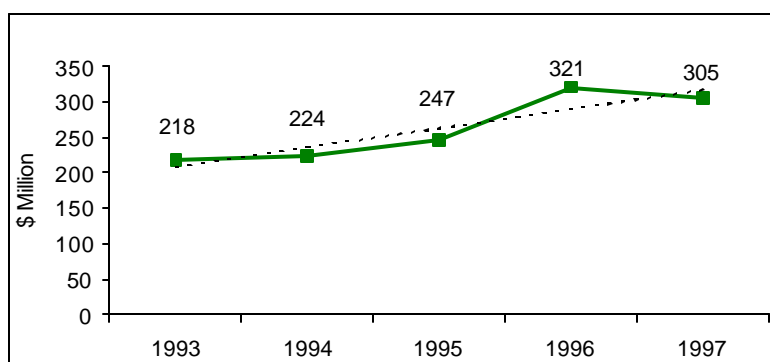
Figure 6.1.1 shows the shares of major importing countries. Regional distribution of towel imports is quite balanced. Of the six major importers, three countries belong to Europe, two to Asia and one to American continents. These six countries accounted for 63% of the total world's towel imports. Germany is the country that is included in the list of major exporters of towels also. This means that Germany is importing towels for re-exporting purposes or it is importing cheaper towels for domestic usage and exporting high value-added towels.

In 1997, USA imported towels worth \$715 million and accounted for 19% share of the world towel imports. Hong Kong was second biggest importer that imported towels of \$422 million and held 11% share of the world import market. Japan Germany and UK imported \$390 million, \$314 million and \$294 million and held third, fourth and fifth positions respectively.

6.1.2. Pakistan's Towels Exports

Towel exports from Pakistan during 1993-97 are shown in Figure 6.1.1. Along with the actual values of exports in the five years, a regression line is also shown as a dotted line in the graph. This takes into account all the variations and translates those into a straight line. It can be seen that the overall trend for the period 1993-97 has been rising. Towels exports of Pakistan have been growing at a positive growth rate of 7% on a compounded basis and 9.5% when the four growth rates during the four time periods are averaged out. Compounded annual growth rate of global exports was 9.6%. Pakistan's growth rate is lower than the global growth rate, which means that Pakistan, is losing market share in the international market.

Figure 6.1.1: Towel Exports from Pakistan



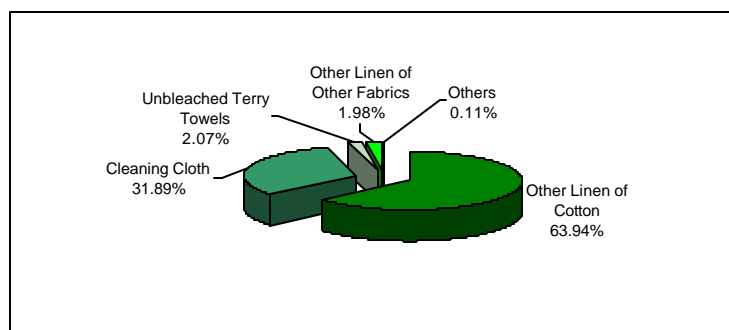
Five-year export figures from Pakistan for all the towel products are shown in Table 6.1.1.

Table 6.1.1: Towels Exports Products Mix for Pakistan

Pakistan's Exports of Towel Products (\$ 000)						
SITC	Product Description	1993	1994	1995	1996	1997
65212	Unbleached Terry Towels	3,220	3,369	3,152	5,030	6,322
65213	Other Terry Towels	1	828	199	608	38
65214	Woven Cotton Pile	1	9	160	45	308
65215	Other Woven Cotton pile	3,805	2,911	1,364	412	4
65847	Other Linen of Cotton	144,359	137,441	154,526	205,395	194,887
65848	Other Linen other Fabrics	5,281	3,571	4,254	7,329	6,040
65892	Cleaning Cloth	61,191	75,447	83,068	102,094	97,206
Total		217,858	223,576	246,723	320,913	304,805

There has been an increase of 1.4 times in the total towel exports of Pakistan in the period 1993-97.

Figure 6.1.2: product Mix for Towels Exports from Pakistan 1997



Looking at the break-up of Pakistani towel exports, it is found that about two thirds of the total value exported is accounted by just one category which is 'Other Linen of Cotton'. 64% of the total exports fell in this category. This is in line with the world trend since this category is also the largest category in the global exports also with 54% share. Pakistan is performing better in this product compared to the other products.

Pakistan's second largest product exported is 'Cleaning Cloth', which constitutes 32% of the total towel exports from Pakistan. In this category also, Pakistan's performance is better than rest of the world because share of this product in the global exports is only 11%. Two top towel products form 96% of the total towel exports from Pakistan. So Pakistani towel manufacturers are ignoring other towel products that are 35% of the total world exports. Pakistan has only 4% share in all those products. There is a need to diversify the product line to balance the skewness existing in the towel exports. Pakistan's strong position in its existing product line will be very helpful in moving the industry into the other products.

6.1.2.1. Pakistan's Current Performance in Towels Exports

Pakistan's exports of towels in the years 1997-98 and 1998-99 are given in Table 6.1.1 through Table 6.1.4

Table 6.1.1: Towels Exports from Pakistan SITC 6521

SITC	Product	1998-99			1997-98		
		Quantity Sq. m	Value '000' Rs	Value \$ '000'	Quantity Sq. m	Value '000' Rs	Value \$ '000'
Total exports in SITC 6521		50,768,190	2,118,465	46,054	25,081,602	1,285,368	27,943
6521102	Cotton Gauze, Bleached or Printed	9,940,520	556,915	12,107	19,071,963	979,553	21,295
6521200	Towelling, Cotton, Unbleached	40,350,596	1,536,828	33,409	5,887,390	296,258	6,440
6521300	Other Terry Towelling, Cotton	477,074	24,722	537	48,860	1,869	41
6521402	Warp Pile Fabric, Eplingle, Uncut	0	0	0	71,200	7,543	164
6521501	Cut Corduroy	0	0	0	2,189	145	3

Source: Federal Bureau of Statistics

Total exports in SITC 6521 were \$28 million in 1997-98 that increased to \$46 million in 1998-99, which is an increase of 70%. The change came from unbleached cotton towels that increased by about seven times. The increase was accompanied by a decrease in bleached or printed towels. Increase in total quantity of category 6521 between the two years was about 100%. The unit price of Pakistani towels in this product line has dropped from \$1.1/sq. m to \$0.9/sq. m. in two years. This is very likely since the high value added product was replaced by low value added unbleached product. In 1998-99, 80% exports in category SITC 6521 were those of unbleached cotton towels and only 19.5% of bleached or printed towels. This once again indicates the chronic problem of Pakistani textile industry of operating in low value-added products.

Table 6.1.2: Towel Exports from Pakistan SITC 65847

SITC	Product	1998-99			1997-98		
		Quantity Kg	Value '000' Rs	Value \$ '000'	Quantity Kg	Value '000' Rs	Value \$ '000'
Total exports in SITC 65847		45,765,852	9,337,606	202,991	44,494,269	8,807,798	191,474
658470	Towels of Cotton Millmade	43,314,194	8,792,671	191,145	43,505,010	8,622,891	187,454
658470	Towels of Cotton Hand Loom	469,578	88,841	1,931	215,752	35,140	764
658470	Toilet & Kitchen Linen 9 Cotton Millmade nes	1,944,418	447,874	9,736	773,463	148,497	3,228
658471	Toilet & Kitchen Linen 9 Cotton Hand Loom nes	37,662	8,220	179	44	1,270	28

Source: Federal Bureau of Statistics

SITC 65847 is the largest category of towel exports from Pakistan. Exports in this category increased by 5% from 1997-98 to 1998-99. Millmade towel of cotton remained the largest category accounting for 95% of the total exports in this category in 1998-99. Second largest category was Toilet & Kitchen Linen of cotton accounting for 4% of the total exports in SITC 65847

Category represented by SITC 65848 is a smaller category. A drop of 5.5% in export value can be seen from 1997-98 to 1998-99. Drop in quantity is 25% which is higher than the value. It means that exports have decreased in low value added goods. 94% exports in this category were that of Toilet and Kitchen Linen of Flax.

Table 6.1.3: Towel Exports of Pakistan 6584

SITC	Product	1998-99			1997-98		
		Quantity Kg	Value '000' Rs	Value \$ '000'	Quantity Kg	Value '000' Rs	Value \$ '000'
Total exports in SITC 65848		1,251,894	284,908	6,194	1,661,765	300,118	6,524
6584801	Toilet & Kitchen Linen of Flax	1,173,360	268,378	5,834	1,650,503	299,142	6,503
6584802	Toilet & Kitchen Linen of MMF	6,738	767	17	0	0	0
6584803	Towels, Other than Cotton	57,547	12,683	276	0	0	0
6584809	Toilet & Kitchen Linen of Other Fibre nes	14,249	3,080	67	11,262	976	21

Source: Federal Bureau of Statistics

In exports of cleaning cloth, Pakistan has consistently shown positive growth. Growth during the period 1997-99 has been 20% in value and 15% in quantity. This is a very healthy sign since average unit price has gone up from \$3.9/dozen to \$4.9/dozen. Product mix in this category is quite balanced. 44% of the total value is accounted by Wash Cloth. Bar Mops is the second largest product accounting for 35% of the total value. Dish Cloth and Dusters are the smaller products accounting for 7% and 8% of the exports in SITC 65892.

Table 6.1.4: Towel Exports of Pakistan 65892

SITC	Product	1998-99			1997-98		
		Quantity Dozen	Value '000' Rs	Value \$ '000'	Quantity Dozen	Value '000' Rs	Value \$ '000'
Total Exports in SITC 65892		52,111,363	5,852,117	127,220	45,262,832	4,877,089	106,024
6589201	Dish Cloth	4,005,297	430,546	9,360	3,186,992	315,888	6,867
6589202	Wash Cloth	25,013,583	2,598,350	56,486	16,222,311	1,576,020	34,261
6589203	Dusters	5,606,236	525,004	11,413	5,101,469	438,501	9,533
6589204	Floor Cloth	52,678	10,451	227	122,356	12,020	261
6589205	Bar Mops	16,169,230	2,063,200	44,852	19,359,446	2,356,621	51,231
6589206	Bath Mats	339,101	114,424	2,487	235,836	68,550	1,490
6589209	Other Cleaning Cloth nes	925,238	110,142	2,394	1,034,422	109,489	2,380

Source: Federal Bureau of Statistics

6.1.2.2. Pakistan's Trading Partners

Since Pakistan's major exports are in two products, 'Other Line of cotton' and 'Cleaning Cloth', so analysis of trading partners is done only for these categories.

Figure 6.1.1: Major Trading Partners of Pakistan in Other Line of Cotton

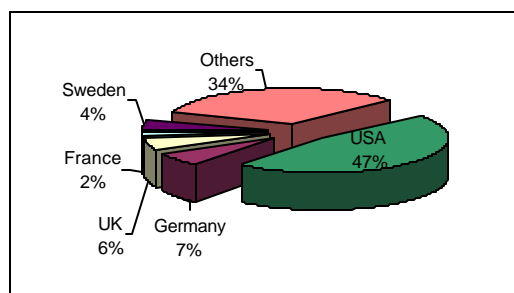
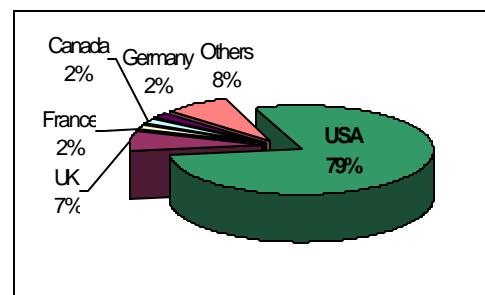


Figure 6.1.2: Pakistan Major Trading Partners in Cleaning Cloth



Looking at the first category, it can be seen in Figure 6.1.1 that USA is the biggest buyer of Pakistani towels. \$92 million worth of towels were exported to USA, which meant 47% of the total exports. Annual growth rate of exports to USA has been 6.2%. Other four major buyers belonged to Europe. Their shares in total exports are very small compared to USA. Germany and UK imported towels of \$13 million and \$11 million from Pakistan. There has been no major change in exports to these countries in five years.

In the 'Cleaning Cloth' a more concentrated market mix is seen. USA accounted for 79% of the exports from Pakistan by importing towels worth \$76 million. It translates into a growth rate of 10.5%. UK is the other important country importing this product from Pakistan.

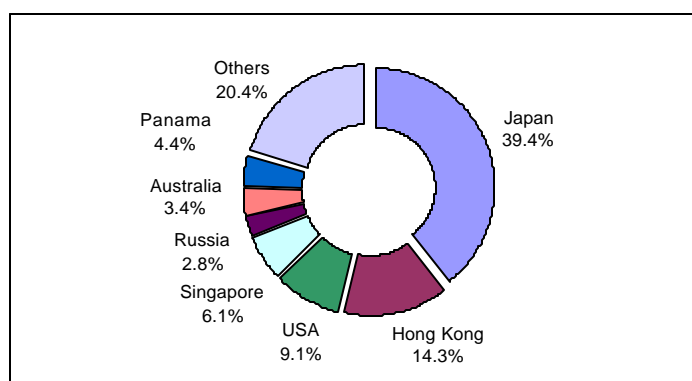
6.1.3. China's Towel Exports

Since China is the major competitor of Pakistan, so it is important to look into China's strategy for penetration into export market. China's export product mix is shown in Table 6.1.1.

Table 6.1.1: Product Mix of China's Towels Exports

China's Towel Exports		
Product	Exports (\$ million)	% Share of China's Total Towel exports
Other Linen of Cotton	586	53.7%
Cleaning Cloth	34	3.1%
Other Linen other Fabrics	25	2.3%
Unbleached Terry Towels	2	0.2%
Other Terry Towels	5	0.5%
Woven Cotton Pile	20	1.8%
Other Woven Cotton pile	419	38.4%
Total	1091	

Largest towel exports of China are also in other linen of cotton. but the second largest product is different from that of Pakistan. China second largest exports are in 'Other woven Cotton Pile'.

Figure 6.1.1: Trading Partners for Chinas Exports of other Linen of Cotton-1997

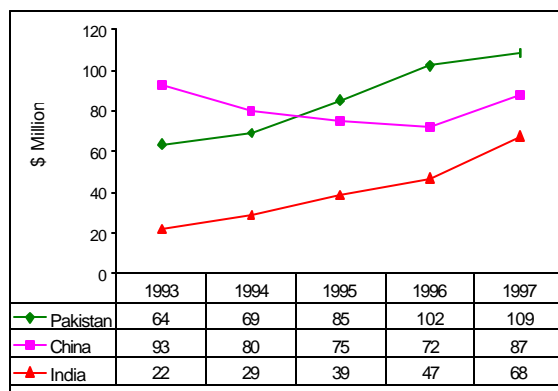
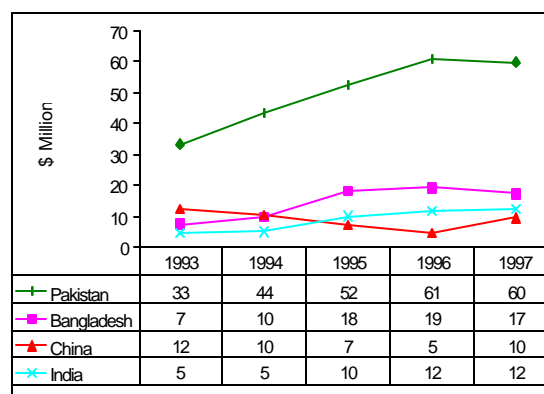
Looking at the trading partners of China in towel exports, it can be seen that Japan is the largest importer of towel products from China. It imported towels of worth \$231 million from China that constituted 39% of the total exports of towels from China. Japan is a large market of towels with import market size of 46 million-kg and \$314 million. Per capita consumption of towels is higher in Japan due to its cultural differences. In early nineties, Japan started getting out of towel manufacturing. The gap created by this was mainly filled by the imports of Chinese towel products into the Japanese market. In 1997 China met 74% of the total import requirements of towels into Japan. China's other major partner is Hong Kong that imported \$84 million of towels accounting for 14% share of Chinese towel exports.

6.1.4. USA Market

USA is the largest importer of towels and is also the largest market for Pakistani towels. So it is important to analyse this market. Figure 6.1.1 and Figure 6.1.2 shows the major exporters of towels in USA market.

In 1997, total USA import markets in SITC 65847 and SITC 65892 were \$402 million and \$129 million respectively.

In both of these products, Pakistan is the top exporter in the USA market. China and India are the other two major exporters while Bangladesh is a major player in the Cleaning Cloth market.

Figure 6.1.1: Major Suppliers to the USA Market of Other Linen of Cotton**Figure 6.1.2: Major Suppliers to the USA Market of Cleaning Cloth**

China has pulled out of USA market in both of these categories. In 'Other Linen of Cotton, China used to be number one player but was overtook by Pakistan in 1995. Pakistan has continuously increased its exports in both the markets. India is also emerging as an important exporter in 'Other linen of cotton'.

Market shares of the major players in USA market are shown in Table 6.1.1 .

Table 6.1.1: Major Players in the USA Market

	Other Linen of Cotton (SITC 65847)	Cleaning Cloth (SITC 65892)
Pakistan	27%	46%
China	22%	8%
India	17%	9%
Bangladesh	NA	13%

6.1.4.1. Unit Price Realisation

Comparison between unit price realisations of Pakistan and other competing countries in USA market in 1997 is shown in Table 6.1.1

Table 6.1.1: Unit Price Realisation in the USA Market

Other Linen of Cotton		Cleaning Cloth	
World Average	6.53	World Average	3.91
Pakistan	4.39	Pakistan	3.75
China	7.68	China	7.63
India	6.02	India	3.74
Brazil	10.37	Bangladesh	3.13
Thailand	10.64	Indonesia	3.03

In 'Other Linen of Cotton' Pakistan's average unit price is lower than the world average. The differential is about 33%. Not only this, but it is lowest compared to those of all to its competitors. Even China, the general perception of which is that of a volume producer, has a higher unit price compared to that of Pakistan. Brazil and Thailand, though smaller players, have a very healthy unit price in this category. Thailand's unit price of \$10.64/kg is 63% higher than the world average and, compared to Pakistan's unit price of \$4.39/kg, is 142% higher.

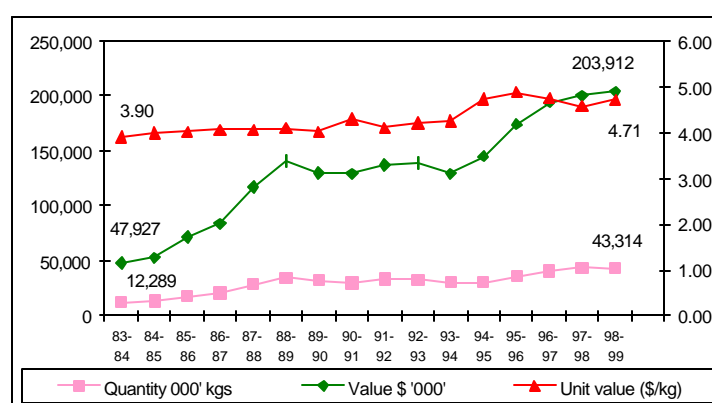
A slightly better situation existed in 'Cleaning cloth'. Cleaning cloth is a cheaper product compared to 'Other Linen of cotton', so the differentials between the prices of different competitors are smaller. World average is \$3.91/kg and Pakistan fetched an average of \$3.75/kg. China has the highest unit price in this category and its price is 95% higher than the world average. Pakistan's realised price is half of that realised by China.

The situation of unit price realisation looks even gloomier when one looks at the fact that Pakistan is the second largest exporter of towels in these two products. The volumes exported by Pakistan have not been able to move the average unit price close to its own unit price.

6.1.5. Quantity-Value-Unit Price Analysis Of Pakistan's Towels Exports

Pakistan's towel exports as reported by Towels Manufacturers Association are shown in Figure 6.1.1.

Figure 6.1.1: Towels Exports of Pakistan



A very visible growth can be seen in the exports. Quantities have increased from 12.2 million kg in 1983-84 to 43.3 million kg in 1998-99. This is an increase of about 3.5 times and translates into 8.8% compounded growth rate per annum. Looking at the value part, it has gone up from \$48 million in 1983-84 to \$204 million in 1998-99. This means a compounded annual growth rate of 10.1%. This growth rate is higher than that achieved in quantity which indicates an increase in average unit price.

Average unit price has gone from 3.71 \$/kg to 4.71 \$/kg in these fifteen years. A sharp increase can be seen in the year 1994-95 when the \$ price per kg jumped from 4.25 to 4.73. The reason for this was the bad cotton crop in this year. Cotton prices increase due to which industry was forced to move into higher value-added towels. At that time, it remained no longer feasible to manufacture low value-added products. This is an indication that industry possesses the capability of producing products that can fetch better prices in the international market. It is only a matter of aligning the individual business operations in that direction and providing some missing links.

Table 6.1.1: Unit Price Realisation in Different Markets

Other Linen of Cotton		Cleaning Cloth	
USA	4.39	USA	0.21
Germany	5.20	Germany	0.16
UK	5.61	UK	0.24
France	5.73	France	0.25
Sweden	6.69	Sweden	0.29

Looking at unit price realizations of Pakistan in different markets in Table 6.1.1, it can be seen that price realized in major markets is lower. In both the products, Pakistan is fetching highest prices in Swedish

market but total exports to Sweden are small. France is another such example. In 1997, total exports to Sweden in SITC 65847 and SITC 65892 were \$8.7 million and \$0.3 million respectively. Need is that Pakistani exporters should pay more attention to the markets in which their price realisation is better.

A number of reasons can be attributed to this situation. One of those is the quality of the raw material used by towel industry. Majority of the towel manufacturers uses waste yarn to produce towels. The quality of these towels is inferior and caters only to the lower end of the market.

General problems include the attitude of the Pakistani manufacturer and the bad image of Pakistan in the international markets. Pakistani manufacturer is not driven for moving towards higher end of the market. Government should devise incentives based on rewarding the extent of value addition achieved in different products.

6.1.6. Towels Industry of Pakistan

Unlike many of the SME sectors in Pakistan, towel-manufacturing industry is mostly in organized sector. According to the industry sources, There are 325 towel manufacturing units in Pakistan out of which 250 (77%) are in organized sector. Total production of towels in 1998-99 was 118 million kg.

6.1.7. Current Status of Technology in Towels Industry

The Pakistan towel industry at large is using locally manufactured power looms. There are some 9000 locally manufactured looms being used by the industry. However some units are also equipped with imported auto looms and their number is about 250. Of the total production, 108 million-kg were from power loom and remaining from imported auto looms. Only 8.5% of the total production came from auto looms.

Auto looms are much better in production capacity and product quality. A locally manufactured power loom produces 1000 kg of towels per month, where as imported auto loom produces 3500 kg of towels per month. Towels produced on auto looms fetch comparatively higher price in the international market. Very few units also use shuttle-less and air-jet looms for weaving towels.

In the technology part, weaving is not the only area in which towel industry is facing problems. Other very important area is that of processing. Ill-equipped processing facilities in the towels industry leads to many quality problems in the final product. This ultimately results in low unit price realisation in the international markets. Most of the processing of towels is done in open winches in a batch fashion. The quality of processing obtained from this process is inferior to the one obtained from continuous processing. The reason for existence of very few continuous units in towels industry is the low volumes. Most of the towel industry is classified as small and medium sized units having smaller productions. Order that a manufacturer gets from a buyer is mostly in line with its manufacturing capability, meaning thereby that mostly, it is a smaller order. Such smaller orders do not justify processing in a continuous unit. The result is batch processing which is mostly done in open pit winches.

Most of the towel manufacturers do not have their own processing facilities. The woven towel is sent to independent processing units. This reduces the capital cost for the manufacturers but increases their quality cost. Quality control becomes very difficult when processing is sub-contracted. That is the reason that most of the quality manufacturers of towels have their own processing facilities. An important step in towel processing is drying. Since weight per unit area is higher for a towel compared to other woven fabrics, so drying time is higher. Majority of the towel industry uses atmospheric drying in the sunlight. Large manufacturers have their own dryers that improve the quality of their final product.

There is a need in the towel industry to invest in areas of processing. By having modern processing facilities, it is possible to achieve an increase in the average unit price of Pakistani towels. It will not be

feasible to have larger continuous processing units for towel industry. The need is to have smaller independent processing units, be those batch or continuous.

Final operation in towel manufacturing is cutting and stitching. This is a fairly simple operation and does not require much expertise. There are no major technology issues in this operation of towel manufacturing.

A product not conforming to the specifications of the international buyer can be easily sold in the domestic market. This makes the manufacturer indifferent about meeting the quality requirements of the buyer.

6.1.8. Opportunities

Pakistan has a strong presence in international towels market and is second only to China. This strong presence can be used to move into next tiers of towel market. Although international perception of Pakistan is that of a low quality producer, but efforts for product diversification can be started in the markets where the perception of Pakistani products is better, efforts should be started to move into higher end of the markets.

Such an area of high value added products is represented by the towels manufactured from dyed yarn which fetch better prices compared to the piece-dyed towels. Towel industry should concentrate towards this segment of the market. Current facilities of yarn dyeing are limited in Pakistan and investment is required in this area.

The markets for towels can be divided into two broad types, the retail market and the institutional market. The institutional market is comprised of users like hotels, hospitals etc. The products sold in this market are usually the standard products. Where retail market is driven by towels of new designs like printed, embroidered etc. towels this is not the case with institutional market. From the current market positioning perspective, it is very difficult for Pakistan to move directly into the fashion towels market. Competing in that market involves design and development activity and strict quality assurance and Pakistan towel industry will take its time for preparing itself for that market. The process of changing market positioning of the products should be gradual.

6.2. Bed-wear and Bed Linen

Bedwear is an important value-added sub-sector of Textile sector. The products include bed sheets, pillow covers, quilts etc. amongst all the made ups, bedwear is the largest sector in terms of production and exports.

Pakistan is an important exporter of bedwear in the world. Main driver for the development of this industry in Pakistan is the existence of power looms sector. Most of the products in this sub-sector are made from low-density fabrics of wider widths. This fabric can be easily manufactured on power looms, which forms the major chunk of weaving industry of Pakistan. The cost of a low-density fabric is low compared to a fabric meant for garments. Processing of the fabric meant for bedwear is done through printing rather than dyeing. Printing is an easier and cheaper technology compared to dyeing. It is easy to control the quality of a print fabric compared to a dyed fabric. The inherent faults in a fabric woven on power looms are not very visible when that fabric is printed.

These factors led to developing a competitive edge for the bedwear industry and the industry grew at a rapid pace.

6.2.1. Major Products of Bed Linen

Major products of Bed Linen are included in the major category represented by SITC 6584. The codes of Bed Linen at five-digit level of SITC are given in Table 6.2.1

Table 6.2.1: Product Descriptions for Bed linen

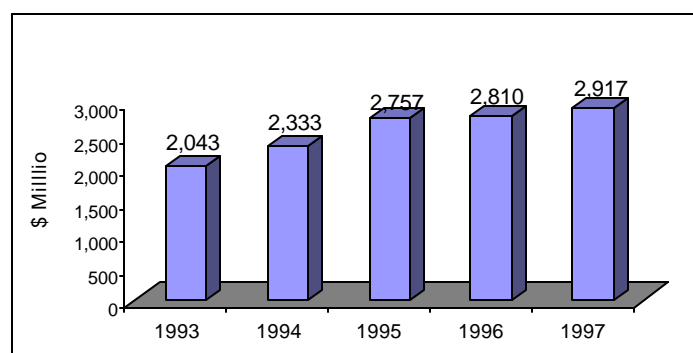
Bed Linen	
SITC	Description
65841	Knit Bed Linen
65842	Non-knit Bed Linen of Cotton
65843	Non-knit Bed Linen of Other Textiles

These products include bed sheets, pillow covers, quilts etc. manufactured in the mills and on handlooms.

6.2.2. Global Trade of Bed Linen

Total global exports of Bed Linen in all the three products are shown in Figure 6.2.1. It was US\$2.9 billion market in 1997. Compounded annual growth five years has been 7.4%. Although the overall market is growing but the rate of growth has declined. During 1993-94, the rate was 14%, which increased to 18% in the next year. But during 1996-97, it dropped down to 3.8%. 51% of the total bedwear exports were made from Asia.

Figure 6.2.1: Global Exports of Bedwear



Looking into the different products of bedwear it is seen that Non-knit Bed Linen of Cotton, which is basically the product manufactured from woven fabric, is the largest product in terms of international exports. In 1997, total exports of this product were \$1.8 billion, which constituted 63% of the total exports of bedwear. Knit Bed Linen is the smallest category with only 10% share. Total exports were \$279 million. Rest of 27% was accounted by Bed Linen of textile materials other than cotton. Export market size of this product was \$790 million.

Looking at the trends and growth rates, it can be seen in Figure 6.2.2 that Bed Linen of other textile material is growing at the fastest rate of 13.8%. Non-knit Bed Linen of cotton has grown at 6% over this period of time. Knit Bed Linen is not only smallest in terms of absolute exports but also has the lowest growth rate amongst all the products. It grew only at 1.7% during this time.

Figure 6.2.2: Export Trends of Bed linen

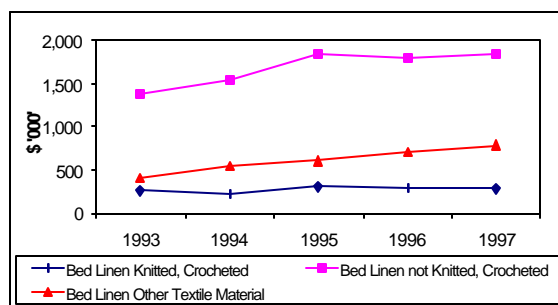
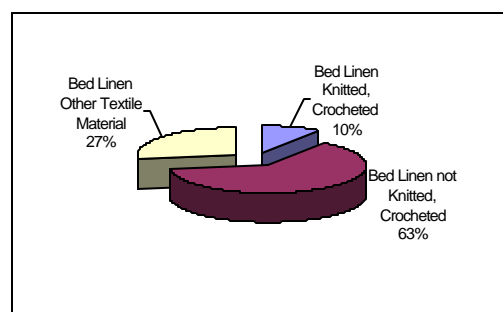


Figure 6.2.3: Product Mix of Bedwear Exports



This trend is very much in line with the trend of global fibre consumption where the share of cotton is being replaced by manmade fibres. This yet again highlights the importance of non-cotton fibres in the textile industry of today.

6.2.2.1. Major Exporters of Bed Linen

China, Pakistan, Turkey, Portugal and USA are the five top exporters of Bed Linen in the world. Their exports and market shares in the total exports are given in Table 6.2.1.

Table 6.2.1: Major Exporters of Bed linen

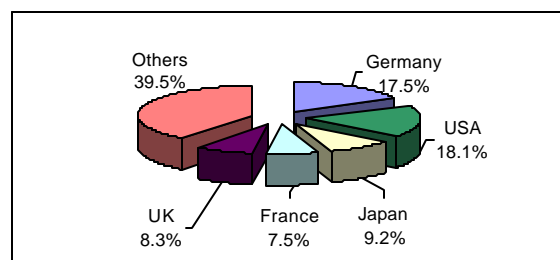
Country	Exports (\$ million)	Market Share
China	708	24.3%
Pakistan	487	16.7%
Portugal	355	12.2%
Turkey	174	6.0%
USA	122	4.2%

The Asian continent claims major share. Pakistan is ranked second in the world in exports of Bed Linen. Of the total Asian exports share of China is 47% and that of Pakistan is 33%. 80% of the total Asian exports were accounted by just China and Pakistan.

6.2.2.2. Major Importers of Bed Linen

USA takes the largest share of the imports. Its total imports of Bed Linen imports in 1997 were \$470 million translating into 18.1% share. It is followed by Germany and Japan with imports of \$455 million and \$238 million respectively.

Figure 6.2.1: Major Bed wear Importers



6.2.3. Pakistan's Performance in Bed Linen

Pakistan's exports and market shares in 1997 and annual growth rates for the period 1993-97 for three products of Bed Linen are shown in Table 6.2.1.

Pakistan has captured very decent market shares in two major categories. In cotton non-knit Bed Linen, it had 18.6% market share and in Other textiles Bed Linen, it had 17.7% share. Growth rates are in line with the world trend. Growth rate in the non-cotton products is twice that of cotton-based products. Pakistan seems to be pulling out of the Knit Bed Linen since growth rate for five years for this product is negative 23%. The exports decreased from \$42 million in 1993 to \$11 million in 1997. Low growth in export market of this product may be one of the reasons for decreased exports.

Table 6.2.1: Pakistan Export Performance in Bed Linen

Pakistan's Export Performance in Bed Linen				
Products of Bed Linen (Values in \$ Million)	Global Export Market	Pakistan's Exports	Market Share	Annual Growth Rate (1993-97)
Knit Bed Linen	279	11	3.9%	-23.2%
Non-Knit Bed Linen of Cotton	1,800	335	18.6%	8.7%
Non-Knit Bed Linen of Other Textiles	790	140	17.7%	18.1%

Source: ITC/UNSD

The share of different Bed Linen products as a percentage of total Bed Linen exports of Pakistan are 2% for Knit Bed Linen, 69% for Cotton non-knit Bed Linen and 28.7% for non-cotton Bed Linen. Comparing this with the global break-up of export market, Pakistan's product mix looks pretty balanced. However, one observation is worth noting. The share of cotton-based Bed Linen in Pakistan's product mix is 69% compared to 63% share in the global exports. This is again an indication that the tilt of the Pakistani industry is towards cotton-based products. However, with a very healthy growth rate of 18% in non-cotton category, it can be predicted that Pakistan will be getting its due share in exports of non-cotton Bed Linen products also.

Table 6.2.2: Exports of Knit Bed Linen from Pakistan

SITC	Product	1998-99		1997-98	
		Quantity kg	Value '000' Rs	Quantity kg	Value '000' Rs
Total Exports		1,218,535	339,614	1,493,228	410,714
6584101	Bed Sheets	1,058,251	303,899	1,373,795	380,301
6584102	Pillow Covers	153,970	32,866	98,129	24,687
6584109	Bed Linen nes	6,314	2,849	21,304	5,726

Source: Federal Bureau of Statistics

The decline trend for Knit Bed Linen that was observed while analysing the data for the period 1993-97 is seen to continue in the next two years also. A decrease of 17% is seen between the two years shown in the above Table 6.2.2 Total exports of this product were Rs 339 billion in 1998-99 which is equivalent to \$7.4 billion (@ Rs 46/USD). This is 33% lower than the value of 1997. Bed-sheets is the largest product in this category that accounted for 89.5% of the total value and 86.8% of the total quantity exported. Share of pillow covers has increased in these two years from 6% to about 10%.

Knit Bed Linen is the non-quota item in European Union and USA markets and this can be used as the major driver for increasing Pakistan's exports of this product.

Table 6.2.3: Exports of Non Knit Bed Linen of Cotton from Pakistan

SITC	Product	1998-99		1997-98	
		Quantity kg	Value '000' Rs	Quantity kg	Value '000' Rs
Total Exports		75,838,373	21,361,312	54,771,100	14,982,838
6584201	Bedsheet Millmade	44,585,902	12,372,936	36,222,177	9,777,719
6584202	Bedsheet Handloom	323,116	73,680	210,830	47,152
6584203	Bedcover Millmade	215,662	55,493	44,305	10,599
6584204	Bedcover Handloom	41,547	9,959	NA	NA
6584205	Fitted Sheets Mill Made	10,902,461	2,543,915	5,341,239	1,182,921
6584206	Fitted Sheet Handloom	2,000	388	9,578	1,334
6584207	Pillow Cover Mill Made	3,833,352	988,664	3,137,094	798,437
6584208	Pillow Cover Handloom	33,595	8,300	59,879	15,194
6584211	Khes Hand Loom	20,551	3,982	24,387	11,123
6584212	Quilts	15,809,108	5,276,635	9,629,547	3,113,335
6584219	Bed Linen nes	71,079	27,360	92,064	25,024

Source: Federal Bureau of Statistics

A huge increase of 50% in value can be seen in the exports of non-knit (woven) cotton Bed Linen during the period 1997-99 as shown in Table 6.2.3. Increase in quantity during the same period has been 39%. This indicates an increase in average unit price. 95% of the exports in this category are accounted by only three products that are Millmade bedsheets, quilts and Millmade fitted sheets. Millmade bedsheets constitute 58% of the total export value in this category. Quilts form another 25% and Millmade fitted sheets account for 12%.

In non-cotton category, overall increase during the two years has been 41% that is the highest amongst the three major products. Same three products form the major share of exports. The share of quilt cover is 33% that is higher than the similar figure in cotton-based bed linen.

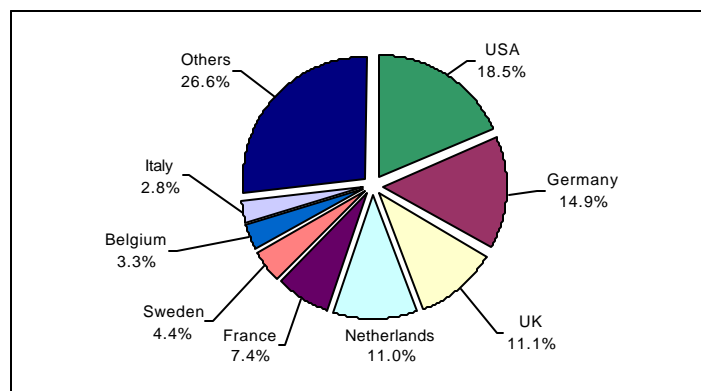
Table 6.2.4: Pakistans Exports of Non Knit Bed Linen of Other Textiles

SITC	Product	1998-99		1997-98	
		Quantity kg	Value '000' Rs	Quantity kg	Value '000' Rs
Total Exports		34,068,600	8,987,174	24,906,168	6,295,225
6584301	Bed Sheet Mill Made	18,642,604	4,669,173	14,361,532	3,655,651
6584302	Bedsheet Handloom	10,300	2,658	12,871	4,431
6584303	Bedcover Mill Made	30,591	7,673	NA	NA
6584304	Bedcover Handloom	10,000	3,009	NA	NA
6584305	Fitted Sheet Mill Made	3,194,694	708,792	1,345,479	3,193
6584306	Fitted Sheet Handloom	11,193	3,246	NA	NA
6584307	Pillow Cover Mill Made	2,426,020	584,837	1,781,919	460,053
6584308	Pillow Cover Handloom	6,369	2,191	24,509	4,147
6584311	Khes Hand Loom	NA	NA	5,850	1,188
6584312	Quilt Cover	9,684,539	2,983,327	7,353,235	2,158,005
6584319	Bed Linen nes	52,290	22,268	20,773	8,557

Source: Federal Bureau of Statistics

6.2.3.1. Pakistan's Trading partners

Pakistan's trading partners in total Bed Linen exports are shown in Figure 6.2.1. USA was the largest importer that imported \$90 million of Bed linens from Pakistan. It constituted 18% of the total exports from Pakistan. In 1997, Pakistan had 19% share of the total USA market for Bed Linen, which looks a very decent figure.

Figure 6.2.1: Export Trading Partners for Pakistan's in Bed Linen 1997

Next seven largest importers of Pakistani Bed Linen products belonged to Europe. Exports to Germany were \$73 million and that to Netherlands was \$54 million. Share of Pakistan in the German market was 16% and that in the UK market was 25%.

Pakistan's market mix looks quite balanced in Bed Linen. To a great extent, it is in line with the global mix of imports by different countries. However, there is one exception to this. Japan is the third largest importer of Bed Linen in the world and imported \$238 million worth of Bed Linen in 1997. Pakistani exports to Japan in the same year were only \$4.7 million. This forms less than 2% share of the Japanese market. Pakistani Bed Linen exporters should target the Japanese market and get their due share in that market.

6.2.3.2. Unit Price Realisation

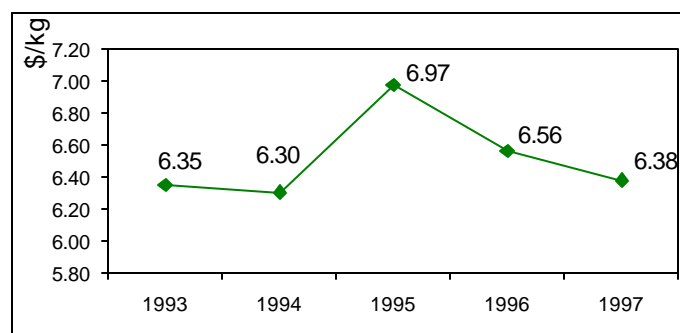
Comparing the unit prices of bed linen for the competing countries, it can be seen that Pakistan has the lowest unit price realisation. As seen for other textile products also, Pakistan is targeting lower market range. Another Asian exporter, Turkey, is also operating in the lower range, but its price is still higher than that for Pakistan. Countries having higher unit prices are mostly European. Their prices are more than double than that of Pakistan.

Table 6.2.1: Comparison of Unit Price Realisation

Exporting Country	Unit Price (\$/kg)
Pakistan	6.38
Portugal	10.64
Turkey	8.13
USA	10.11
France	13.93
Italy	15.80
Mexico	17.43
Germany	14.20

Looking at the unit price trend of Pakistan, average price per kilogram of bed linen in 1997 is same as that was in 1993. But within this period, a sharp rise in price can be seen. The price increased by about 11% from 1994 to 1995 but again dropped back to 6.56 in 1996. The reason for this was bad crops of cotton due to which it was not feasible to operate in the lower market. The industry responded to the situation of higher cotton prices by moving into higher end of the market.

Figure 6.2.1: Unit Price Realisations Trend for Pakistan's Bed Linen Exports



China's unit price is not shown in the Table 6.2.1 because China's reporting of Bed Linen is in pieces and not in weight units. On this basis, China's unit price is calculated as \$2.37/piece. Using an average weight of 300 grams per piece, China's unit price in weight terms comes out to be \$7.9/kg. So China's Bed Linen products also cater to the lower end of the market.

6.2.3.3. Pakistan's Unit Price in different Markets

Pakistan is getting the highest price for its Bed Linen products in the French market. Price realised in this market is 12% higher than Pakistan's average price. In Germany, which is the Pakistan's largest trading partner in Bed Linen, average price is much lower than the average.

Table 6.2.1: Unit Price Realisations in Different Markets

Country	\$/kg
World Average	6.38
Germany	5.69
USA	6.57
Netherlands	6.09
UK	6.75
France	7.14

6.2.4. Pakistani Bed Linen Industry

Major chunk of the Pakistani Bed Linen industry is in the informal sector. According to the industry sources, there are 150 units producing Bed Linen in the organised sector and the rest of the units are in the unorganised sector. There is not any data available on these units. Bed Linen industry may be large or small depending upon the number of operations carried out by a unit itself. It involves weaving/knitting, processing and stitching. If a unit is vertically integrated and is performing all the operations in-house, it is a large unit and is mostly in the organised sector. There are smaller units, which are doing just one of the three operations. A Bed Linen manufacturer may be buying fabric from outside and converting it into final product after processing it in-house. Or even the processing is subcontracted and a manufacturer is just cutting, stitching and packing in its own premises. Vertically integrated units are smaller in number and they operate in relatively upper market segments since it is easy to control the quality in a vertically integrated operation.

Another reason for non-availability of data about Bed Linen industry is the nature of data reporting. The classification of the industry is based on the operations rather than the products. There are weaving, processing and stitching or composite units. A weaving or processing unit may or may not be manufacturing bed linen. It may be selling the print cloth. It becomes very difficult to identify units based on the products to get to the actual production figure. Moreover, manufacturers also keep on changing products.

Major clusters of Bed Linen are in Karachi, Faisalabad, Lahore, Multan and Hyderabad.

6.2.5. Problems of the Industry

- a. Of all the three operations of weaving, processing and stitching, processing is the key operation in manufacturing bed linen. This key operation is also the weakest link of the bed linen value chain. The processing technology being used by the industry is not adequate to meet the requirements of the quality market. There is a need in the industry to upgrade the existing technology and invest in new units. The new investment should go for achieving a balanced mix of vertically integrated units and independent commercial processing units. Vertically integrated units should be manufacturing products for upper market tier while commercial units will cater to the needs of the manufacturers in the informal sector which are selling lesser value added products.
- b. Along with the better technology, availability of quality manpower for processing is also very important for the industry. Training institute for producing good processors should be established.
- c. Internal competition between the Pakistani manufacturers is also responsible for bringing the unit price down. Any competitive edge gained by a manufacturer through any fair or unfair means is passed on to the buyer by cutting the prices. This not only hurts the individual exporter but also affects the potential export earnings of Pakistan.
- d. Pakistani manufacturers need to manufacture products for the upper market segment. This is the only way out to survive in an environment in which the margins in the traditional bed linen products are shrinking very rapidly. Higher value added products will increase the profitability of the manufacturer.

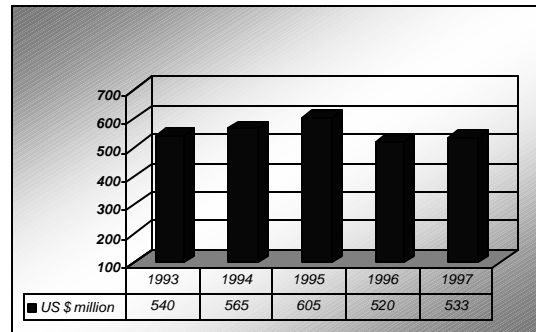
- e. Bed Linen is not an industrial product like yarn or fabric. It is a value added consumer product. In such products, there is a strong need for design and development. Pakistani manufacturers are not proactive in this regard. For product development they completely rely upon the buyers. The industry should keep itself aware about the latest global trends and respond to the need of the market in a proactive fashion.
- f. One of the major reasons of low price realisation is the image of Pakistan as a low quality producer in the international market. Government should make concerted efforts to effectively market Pakistan in the world.

6.3. Table Linen

6.3.1. Global Market and Exports

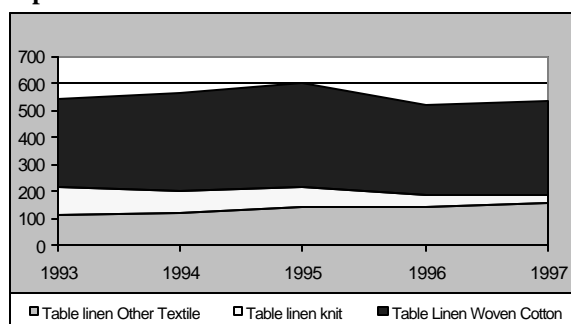
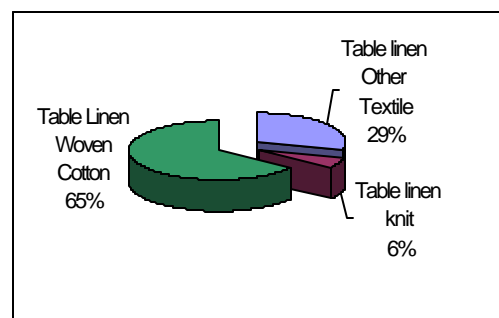
Table linen comprises of small segment of the global textile made-ups trade. It has a meagre share of 4.4% in the exports of made-ups. During 1997 a total of US \$ 533 million worth of table linen was exported. The export growth in this segment has been stagnant for a period of five years ranging from 1993 through 1997. The average rate of the growth during the period was around 0.04%.

Figure 6.3.1: Global Exports of Table Linen



6.3.1.1. Product Segments of Table Linen

Trade in table linen is classified under three main categories including the table linen of cotton woven fabric, knit and crocheted and other textile materials. The linen manufactured from woven cotton fabric dominates the overall export product mix. Its share in world exports is 65%, which translates into US \$ 355 million. Table linen in this segment is manufactured from low-density fabrics, using low count cotton yarns. A large portion, very similar to the bed-linen product mix, is exported in the form of printed fabric. The table linen of knit fabric and crocheted fabric has a 6% share in the global exports. US \$ 32 million worth of knit table linen was exported during 1997. With the increased mill consumption of synthetic fibres and filament, more and more textile products are being manufactured from fibres other than cotton. This trend can also be observed in the exports of table linen. The table linen of other textiles has a 29% share with exports worth of US \$ 155 million. The exports of table linen within this category have increased by 40% over a period of five years from 1993 -1997, during 1993 the exports were around US \$ 112 million. However, the exports of knit table linen declined 68% from US \$ 101 million in 1993 to US \$ 32 million in 1997. A greater portion of this market is being taken over by the table linen of other textile materials. Table linen of woven cotton fabric seems to have a steady market position, the overall increase in the value of exports during the five-year period was around 5%. A consistent decline in the exports of knit table linen clearly depicts that the future market split will be limited to the cotton linen and that manufactured from other textile materials.

Figure 6.3.1: Product Segment of Table Linen Exports**Figure 6.3.2: Product Segment of Table Linen Exports**

6.3.1.2. Exporting Countries

China dominates the world export market of table linen with US \$ 238 million worth of exports and market share of 45%. Despite a growth in all the major textile exports, there is a 20% decline in the exports of China from 1993 to 1995. Germany, Italy Belgium and Portugal are other top exporters of table linen with a market share of 9%, 8%, 6% and 5% respectively. Unlike all the other textile made-up products, the table linen is one category that has a strong presence of the developed European countries. The market share of these countries is also on the rise as compared to that of the textile giant, China. For instance, there is a 31% increase in the value of Germany's table linen exports, Italy another developed European country experienced 63% increase in the value of exports from 1993 to 1997.

It is also evident from the export data that the 'others' segment representing comparatively smaller global players are also aggressively developing their export markets of table linen to join the prominent countries in this market segment of textile made-ups. There is a persistent increase in the value of exports of these countries, the overall increase from 1993 to 1997 has been 21%.

Table 6.3.1: Major Exporters of Table Linen

Country	US \$million				
	1993	1994	1995	1996	1997
CHINA	295	308	314	224	238
GERMANY	35	36	43	43	46
ITALY	27	33	44	44	44
BELGIUM	31	33	40	35	31
PORTUGAL	31	31	33	30	28
OTHERS	121	124	131	144	146

Figure 6.3.1: Emerging Exporters of Table Linen

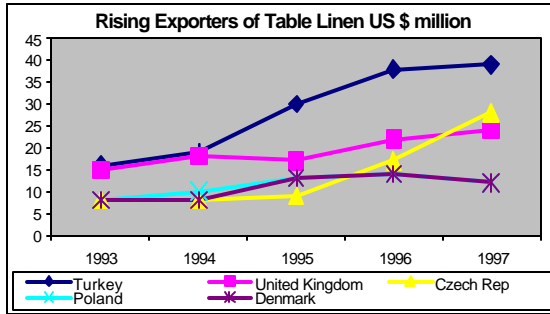
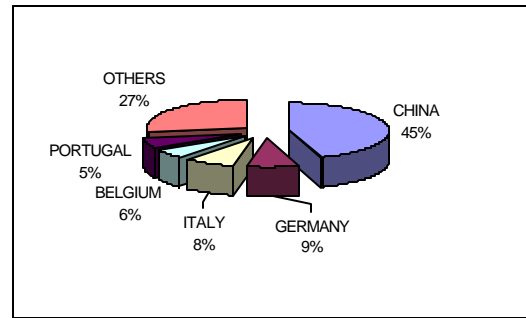


Figure 6.3.2: Major Exporters of Table Linen



6.3.1.3. The Emerging Global Players

As mentioned above, the other segment, comprising of smaller players in the table linen segment has grown significantly in the global table linen markets. A few countries including Turkey, UK, Czech Republic, Poland and Denmark, which experienced tremendous growth in exports, are the key drivers. The exports of table linen from Czech Republic increased from US \$ 8 million in 1993 to US \$ 28 million in 1997, with a massive growth of 250%. Turkey is another example that experienced 144% percent growth in its exports during the same period. The exports, which were US \$ 16 million in 1993, increased to US \$ 39 million. United Kingdom also followed suit with an increase in exports of 60%.

6.3.1.4. Major Importing Countries

The USA imports bulk of table linen from the world. Its share in the global imports is 32%. US \$ 216 million worth of table linen was imported by it in 1997. The American market as in all the consumer products has a much higher consumption rate than rest of the world. This can also be observed in the growth of imports in table linen, which have increased from US \$ 165 million in 1993 to the existing level reflecting an overall increase of 31%. The healthy trend of import growth reveals the extent of opportunities the American market offers to the exporting countries. Germany the second largest importer of linen holds a 23% market share. Although the quantum of increase in imports is much smaller than that of the USA but still there is a marked increase in linen imports which increased by 12%, from US \$ 139 million in 1993 to US \$ 155 million. Other major importers in the category include Hong Kong, France and Italy with a market share of 10% 9% and 6% respectively.

Figure 6.3.1: Major Importers of Table Linen

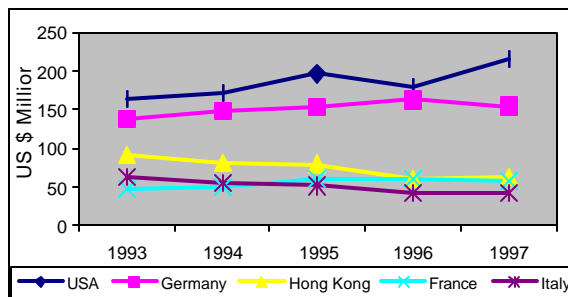
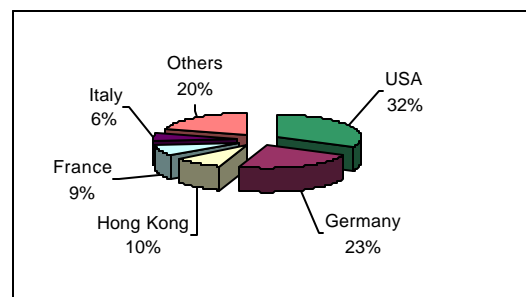


Figure 6.3.2: Major Importers of Table Linen



6.3.1.5. China : Declining Table Linen Exports

China, dominating the textile trade in almost all the categories, is loosing its market share in the table linen exports, despite the fact that it holds the major share of 45% in the global exports. During a period of five years from 1993 to 1997, this particular made-up segment declined at a negative average growth rate of

4%. The main reason of this is the enormous decrease in the overall market of the knit table linen. China had a 77% share in the global exports of knit table linen. The market of knit table linen decreased at an average negative rate of 24%, it was US \$ 101 million in 1993 and contracted to US \$ 32 million in 1997. This phenomenon badly hit the export performance of the China as table linen of knit fabric had a 35% share in the product portfolio of its exports in the table linen.

Figure 6.3.1: China Exports of Table Linen

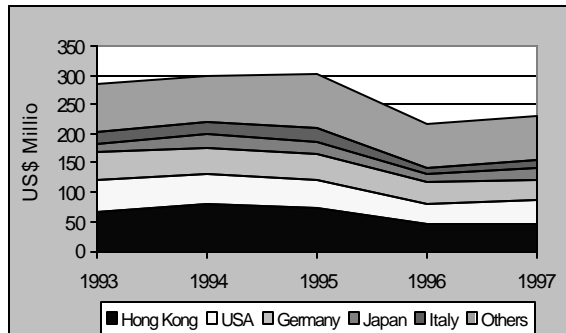
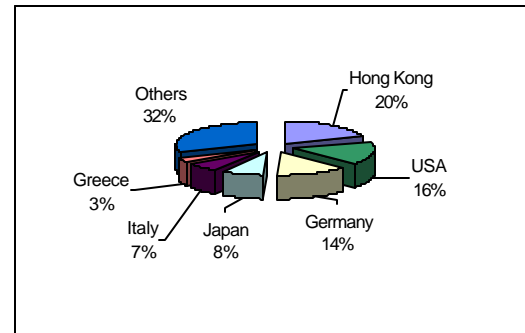


Figure 6.3.2: China's Export Markets



The imports from China are predominantly directed towards Hong Kong, which accounts for 20% of China's total table linen exports. The USA is the second largest importer having another 16% share. The period from 1993 to 1997 represents a bad patch, when the imports of both the countries from China underwent immense reductions. Hong Kong's imports shrank by 27% during this period that came down from US \$ 66 million to 48 million. Similarly American imports also declined from US \$ 55 million to US \$ 39 million, a decrease of 30%. The major factor behind all these declining export market share is the unprecedented reduction in global demand of knit table linen. China is still a very strong player in the table linen segment, but definitely the emerging players are a future threat to China's position in table linen trade.

6.3.2. Pakistan and Table Linen Exports

Pakistan with a total of US \$ 4.8 million worth of table linen exports has a small share of 1% in the global trade of this segment. The dismal performance of the sector can be gauged from the fact that the exports are stagnant at the same level for the past five years from 1993 to 1997. The product mix in table linen exports is limited to only woven cotton linen, with no presence in the growth segment of table linen manufactured from other textiles.

The export markets are also limited to only five countries including Italy, with a 28% share in exports, is the largest importer of table linen from Pakistan. The USA imports around US \$ 1.23 million worth of table linen, constituting 25%, the rest is exported to three other EU countries. Not a single unit of this product is exported to other major global importers including Hong Kong, Japan and France, which have a 20% share in the world import market.

Table 6.3.1: Pakistan Exports of Table Linen

Country	US \$ million				
	1993	1994	1995	1996	1997
Italy	1.24	1.11	1.02	1.35	1.35
USA	0.06	0.07	0.46	1.22	1.23
United Kingdom	0.88	0.83	0.44	0.44	0.38
Germany	0.88	0.66	1.02	0.43	0.29
Netherlands	0.49	0.53	0.09	0.06	0.27
Total	5.08	4.76	4.70	4.55	4.84

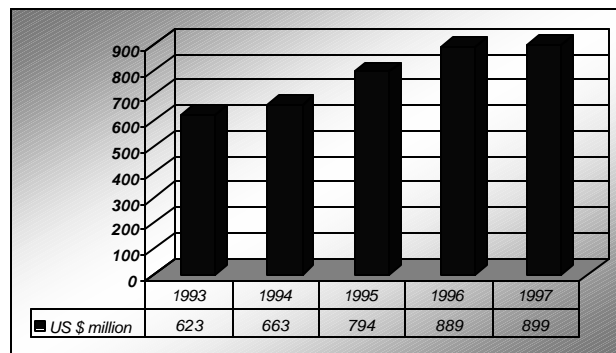
The export performance in table linen products clearly shows that this area has been completely ignored by the country's exporters. During a similar reporting period the bed linen sector of Pakistan grew at a great pace. Similarly slight efforts in product improvement and development can have healthy effect on the performance of this segment. The export performance of Turkey and a couple of Eastern European countries, as given above, leave an ideal example for the Pakistani manufacturers/exporters. If these countries can grow in a declining export market and threaten the market share of a country like China, then Pakistan with its enormous textile potential is in an ideal position to work in this direction.

6.4. Blankets

6.4.1. Global Market of Blankets

Blankets comprise another small segment of textile made-ups. The share in exports is around 7% with a total export market of US \$ 900 million. The global market for blankets has grown progressively with an average growth rate of 10% for a period of five years from 1993-1997. There has been a healthy increase in the value of exports, which increased by 44% in 1997, from US \$ 623 million to US \$ 899 million. If the export growth in blankets is assumed to follow its historical trends, which is not unrealistic, the global market of blankets will attain US \$ 1.5 billion level in 5 years time.

Figure 6.4.1: Global Exports of Blankets



6.4.1.1. Product Mix of Exports

The global trade of blankets is categorised in four types, based on the kind of fibre used in its production. The blankets manufactured from synthetic fibres dominate the export product mix; its share in the total trade is around 66%. Cotton, woollen and blankets manufactured from other textile fibres have 18%, 10% and 6% share respectively. The growth in the overall blanket exports is driven by the exports of cotton and synthetic fibre blankets, the other two product segments have been stagnant at the same level from 1993 to 1997. The exports of cotton blankets have increased from US \$ 80 million to US \$ 153 million, registering an increase of 91% in value over a short span of five years from 1993 to 1997. The blankets of synthetic fibres also grew significantly during the same period. The exports increased by almost 47%, in value terms the market grew by US \$ 184 million.

As in the trade of all the fabrics and textile made-ups, aggressive growth is observed in the products manufactured from synthetic and artificial fibres. Countries like Korea are investing heavily in the field of fibre research and development, a wide range of numerous synthetic and artificial fibres are already in use which have reduced the consumption of natural fibres to a great extent. This phenomenon is highlighted in the export product mix of blankets also. There is a consistent rise in the demand of blankets manufactured from synthetic fibres, which is grabbing the market share from the cotton blankets and blanket of other textile fibres. The woollen blankets segments, although have a small share in the total, has maintained its market share.

Figure 6.4.1: Products Segments Global Blanket Exports

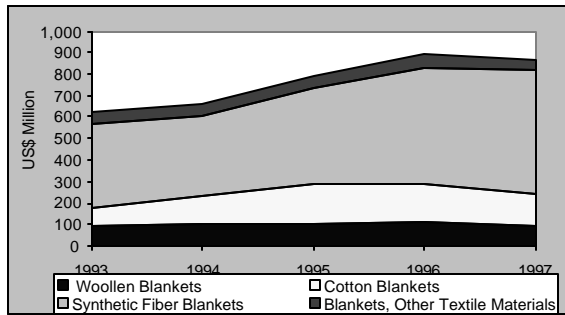
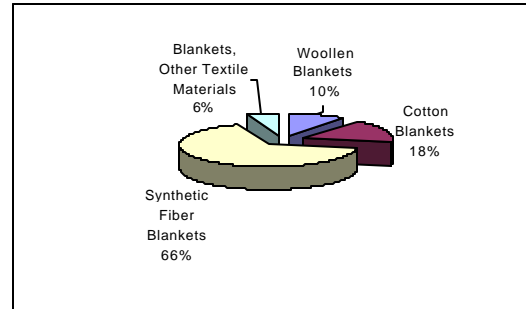


Figure 6.4.2: Product Segments Global Blanket Exports



6.4.1.2. Major Exporting Countries

China is the world largest exporter of blankets in the world, it has 25% share in the global market. 61% of the blankets exported by China are produced from the synthetic fibres, the rest of the exports include cotton blankets with a 35% share and a small quantity of blankets made from other textile fibres. The second largest exporter of Blankets is Korea, having 19% share in the world exports. The important feature of Korea's exports is that more than 99% of its exports are in a single category, blankets of synthetic fibres. The overall increase in its exports of blankets has been 30%, which increased from US 129 million in 1993 to US \$ 167 million. Both of these countries i.e. Korea and China control 53% of the total exports of synthetic blankets in the world. As already discussed, these two countries also dominate the global production of synthetic and artificial filaments which has enabled them to acquire a strong position in textile made-ups of synthetic fibres.

Other leading players in the blanket market include Spain, Mexico and Italy, having 9%, 7% and 5% share. 88% of Spain's total exports of blankets are also in the synthetics segment, similarly Mexico has enhanced its market of blankets through increased exports of synthetic blankets, which currently constitute almost 87% of its blanket exports product mix.

Figure 6.4.1: Major Exporting Countries

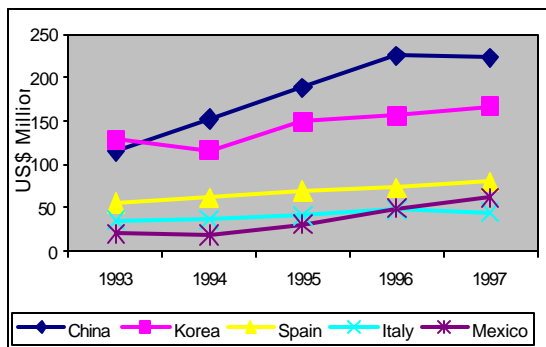
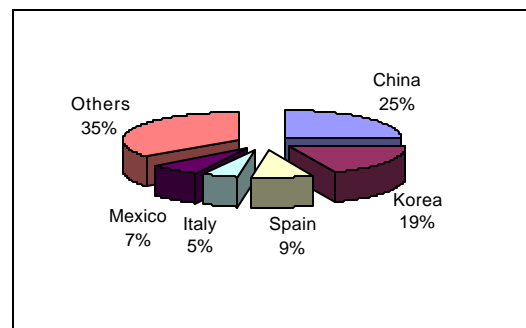


Figure 6.4.2: Export Market Shares for Blankets 1997



6.4.1.3. Major Importing Countries

Japan is the largest importer of blankets in the world, it imports around US \$ 152 million worth of blankets. The demand of blankets in Japan has increased drastically from US \$ 54 million to its existing level, with an increase of almost 182%. The growth is basically driven by the increased imports of cotton blankets, which during 1997 were US \$ 101 million, almost 67% of Japan's total blanket imports. Japan also imported US \$ 43 million worth of synthetic blankets. Interestingly 94% of the cotton blankets are imported from a single country China, which exported US \$ 95 million worth of cotton blankets to Japan during 1997.

The USA is the second largest importer of blankets, out of total imports of US \$ 99, million synthetic blankets segment has the highest share of 59%. Mexico is the single largest exporter of synthetic blankets to the USA. During 1997 its total exports were to the tune of US \$ 41 million, which is almost 71% of USA's total synthetic blanket imports (US \$ 58 million). Interesting thing to note is the fact that Mexico's exports of synthetic blankets to the USA account for almost 76% of its total exports, in the segment, to the world. Besides synthetic blankets, the USA also imports cotton blankets, which accounts for almost 32% of its total imports. The major exporting countries of cotton blankets include China, Philippines and Pakistan.

More than 90% of the blanket imports of Saudi Arabia comprise of the synthetic blankets, the major exporters to Saudi Arabia are Vietnam, Korea and Spain. Similarly 60% of Germany's blanket imports are also of synthetic blankets, major suppliers of blankets to Germany are the Eastern European countries. The profile of the major importing countries also lead to the conclusion that the synthetic blankets will dominate the future trade of blankets. Countries having a competitive advantage in production of synthetic fibre/fabric have great deal of opportunities to reap the benefits from an aggressive growth market.

Table 6.4.1: Major Importing Countries

	US \$ millions				
	1993	1994	1995	1996	1997
Japan	54	132	185	165	152
USA	59	67	79	81	99
Saudi Arabia	93	54	67	69	56
Germany	42	44	42	37	41
Canada	19	25	25	27	32

6.4.2. Pakistan and Global Blanket Market

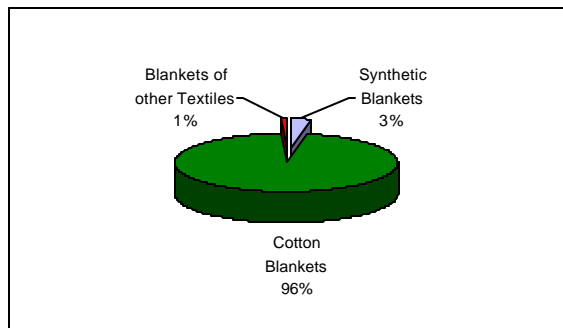
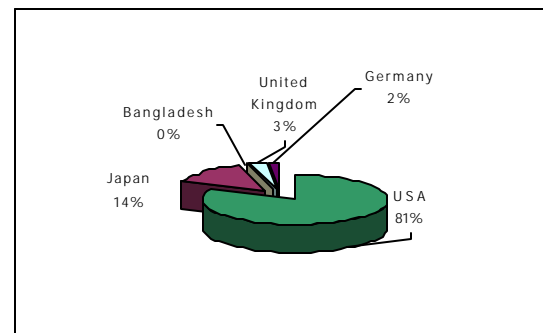
Pakistan has not been able to fully exploit its textile potential in the high growth segment of blankets. Its share with total exports of US \$ 5.16 million in the global export markets is less than one percent. Although this segment has grown at a tremendous pace, the overall increase over a five-year period from 1993 to 1997 has been more than 250%. This is phenomenal growth in percentage terms but in value terms it is not able to make any significant impact, as the exports increased by only US \$ 3.79 million. This pattern of growth shows the potential that exists. The improvement in the export performance of blanket was due to the increased imports by the USA, which increased by almost 352% from US \$ 0.39 million in 1993 to US \$ 3.91 million in 1997, even at this level Pakistan has a share of only 4% in the American blanket market.

Table 6.4.1: Pakistan Blanket Exports

	US \$ million				
	1993	1994	1995	1996	1997
USA	0.39	0.33	3.52	2.85	3.91
Japan	0.48	0.42	0.24	1.30	0.67
Bangladesh	0.16	0.00	0.33	0.70	0.00
United Kingdom	0.13	0.18	0.17	0.11	0.16
Germany	0.01	0.08	0.31	0.06	0.07
Total	1.45	1.31	5.08	5.49	5.16

In the Japanese market, Pakistan has a limited share of 0.4%, Japan is also the world's largest importer of cotton blankets with 67% share in the import product mix of blankets. The Japanese market has not been properly explored by the domestic manufacturers and exporters. The focus of the Pakistani textile exporter has traditionally been on the quota markets, while in some product categories non-quota countries offer excellent growth opportunities for domestic exporters/manufacturers.

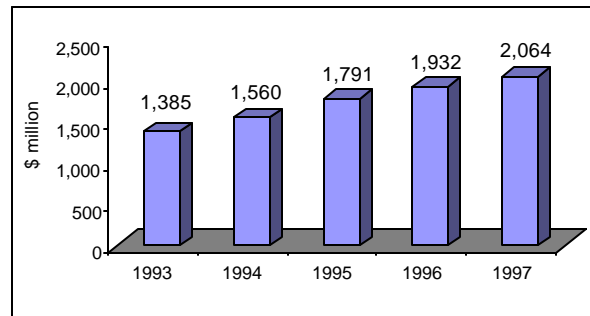
Another inhibiting factor in the growth of blanket exports from Pakistan is the narrow product range. It can be observed in the export product mix of Pakistan that cotton blankets dominate the export trade, which constitutes 96% of the total blanket exports from Pakistan. Pakistan is almost non-existent in the high growth global segment of synthetic blankets, which also has the largest share of 66% in the global export market of blankets. A contributing factor in the slow growth could be the high import tariff imposed by Pakistan, on synthetic filaments and fibres used to manufacture blankets. The limited product base is the major cause that has kept Pakistan out of the high-growth international blanket markets. In order to further increase the exports of blankets, Pakistan has to broaden its product range through enhanced consumption of synthetic fibres and filaments. In this regard availability of raw materials (artificial/synthetic fibre and filament) at international price level to the local producer is likely act as a catalyst in the sustainable growth of blanket exports.

Figure 6.4.1: Blanket Export Product Mix of Pakistan**Figure 6.4.2: Major Export Markets for Pakistan**

6.5. Curtains and Furnishings

6.5.1. World Trade of Curtains and Furnishings

Figure 6.5.1: Global Exports of Curtains & Furnishing

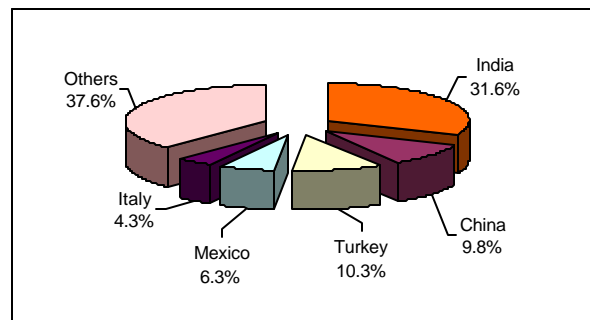


World trade of curtains and other furnishings is reported under SITC 6585. Total export market of this product in 1997 was \$2 billion. Average growth rate during five years was 8.3%.

6.5.1.1. Major Exporters of Curtains and Furnishings

India is the largest exporter of curtains and furnishings. In 1997, its exports were about \$650 million with 31.6% market share. India's growth rate has been 16.8%. Major exporters are shown in Figure 6.5.1. China is at the second position with 9.8% share. Annual growth rate for the five years was 6.6%. Amongst all the competitors, Turkey is really growing at a phenomenal rate. Its growth rate has been 18.8%. By virtue of this, it has managed to improve its market share from 6.5% in 1993 to 10.35 in 1997.

Figure 6.5.1: Major Exporters of Curtains & Furnishing



6.5.1.2. Major Importers of Curtains and Furnishings

Like all the products, major importers of curtains and furnishings are the developed countries. USA is the largest importer importing \$326 million of curtains in 1997, which formed 15.8% of the total global imports. Average annual growth rate of USA has been 14.3% during the period 1993-97.

Table 6.5.1: Major Importers of Curtains & Furnishing

Country	Imports (\$ million)	% share
USA	326	15.8%
Germany	218	10.6%
UK	123	6.0%
Japan	111	5.4%
France	103	5.0%
Others	582	28.2%

Of all the importers, highest rate of growth has been recorded for UK, which has grown from \$52 million to \$123 million. This translates into a growth rate of 24% per annum. Japanese imports have also grown at high rate of 18% from \$64 million in 1993 to \$111 million in 1997.

6.5.1.3. Product Mix of SITC 6585

There are three main products included in category

1. Curtains and interior blinds etc. (SITC 65851)
2. Bedspreads (SITC 65852)
3. Furnishing articles nes (SITC 65859)

In 1997, the export market of first category was \$650 million that accounted for 46% of the total curtain exports. Bedspreads constituted 17% of the, the rest claimed by curtains not elsewhere specified.

6.5.2. Pakistan's Performance in Curtains and Furnishings

Pakistan is not a very active player in the international export market of curtains. Total exports in 1997 were \$41 million, which means 2% share of the market. Looking at individual curtain products, Pakistan's main exports are in curtains, represented by SITC 65851. It accounts for 83% of the total curtain and furnishings exports. Pakistan has 5.3% market share in this product.

In the other two products, Pakistan has very small market shares.

Table 6.5.1: Pakistan's Comparative Export Performance

	Total World Market	Pakistan's Exports	Market Share	World Growth Rate	Pakistan Growth Rate
Curtains (65851)	650	34.4	5.3%	13.0%	35.9%
Bedspreads (65852)	235	1.1	0.5%	2.05	45.8%
Curtains nes (65859)	526	5.4	1%	-4.85	13.5%

Looking at the Pakistan's growth rates compared to world growth rates, an interesting situation can be seen. In all the three products, Pakistan's growth rates are above the world's growth rates with a wide margin. This may not be significant for the last two products since the volumes exported are very small but in the first product, this is very positive signal. It indicates that Pakistan is strengthening its position in this market by eating up the shares of its competitors.

Pakistan's relative position in the international curtains market in 1997 is shown in Table 6.5.1.

Table 6.5.2 gives the most recent picture of Curtains exports from Pakistan at a greater level of detail.

In the first category of curtains, growth rate of 40% is recorded from the year 1997-98 to 1998-99, which is in continuation of the growth trend shown till 1997. 72% of the total exports of this product was accounted by cotton curtains. Share of the synthetic curtains was 20%. This again reflects the reliance of Pakistan's textile industry on cotton.

In bedspreads, Pakistan's export value has grown by 23% in two years. In 1997-98, the share of knit and woven products were almost equal but in 1998-99, knit has a negligible share and 98% of the total exports were constituted by woven bedspreads. There is a drop in quantity exported but an increase in value meaning thereby that unit price has increased during this time period.

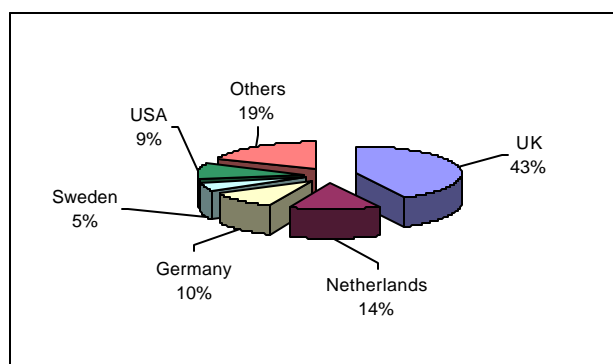
Table 6.5.2: Exports Details of 6585

SITC	1998-99			1997-98		
	Quantity Dozens	Value '000' Rs	Value '000' \$	Quantity Dozens	Value '000' Rs	Value '000' \$
Total Exports in SITC 65851	974,201	2,017,708	43,863	677,930	1,442,164	31,351
6585101 Cotton Curtains Millmade	709,959	1,464,422	31,835	497,714	1,111,565	24,164
6585102 Cotton Curtains Hand Loom	113	427	9			
6585103 Synthetic Curtains Millmade	200,497	403,442	8,770	123,936	217,420	4,727
6585104 Synthetic Curtains Hand Loom	513	1,761	38	1,702	4,797	104
6585109 Curtains of other textile materials	63,119	147,656	3,210	54,578	108,382	2,356
Total Exports in SITC 65852	23,532	53,841	1,170	23,592	43,039	936
6585201 Knit Bedspreads	471	1,246	27	11,748	15,459	336
6585202 Other Bedspreads	23,061	52,595	1,143	11,844	27,580	600
Total Exports in SITC 65859	131,416	84,981	1,847	496,089	313,630	6,818
6585901 Cushions	127,828	80,502	1,750	271,041	183,943	3,999
6585902 Mosquito nets	2,250	1,374	30	224,482	128,448	2,792
6585909 Furnishing Articles nes	1,338	3,105	68	566	1,239	27

6.5.2.1. Pakistan's Trading Partners

\$17 million worth of curtains and furnishings were sent to UK from Pakistan in 1997, which is 43% of Pakistan's total exports of this product. Average growth rate during the five years has been 24.8%. Pakistan has 14% share of the total UK market of this product. Nether lands, Germany and USA are the other three major importers. Although the import growth rates of these countries are much higher than that for Pakistan but since the values exported are small, so those are not of much significance.

Figure 6.5.1: Pakistan's Major Curtain Trading Partners



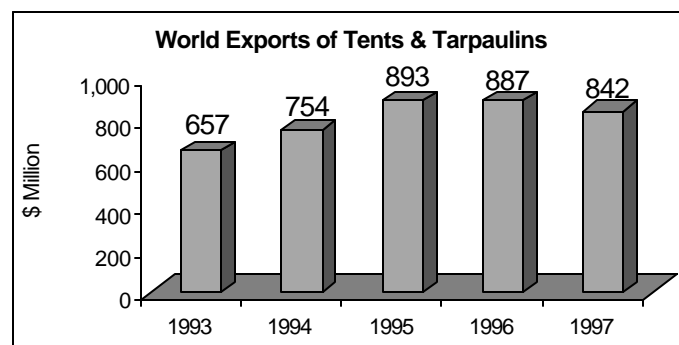
6.6. Canvas and Canvas Products

International trade of canvas products is reported under SITC 6582. It includes products like tents, tarpaulins, camping goods, sails etc.

6.6.1. Global Trade

In 1997, total exports in this category were \$842 million. Average growth rate has been 6.9% per annum. From 1995 to 1997, there is a declining trend. About 54% of the total global exports were from Asia. Average growth rate of Asian exports as 7.9% that is higher than the global growth. This is in line with the trend seen in other products where Asia is gaining market share in this product category also. Production centers are shifting to Asia due to lower labour costs.

Figure 6.6.1: Global Exports of Tents & Tarpaulins



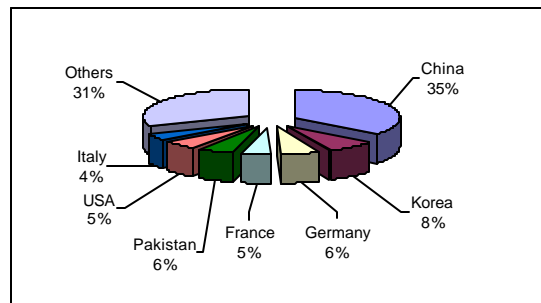
The products reported in this category are:

1. SITC 65821 Tarpaulins, awnings and sunblinds
2. SITC 65822 Tents
3. SITC 65823 Sails
4. SITC 65824 Pneumatic mattresses
5. SITC 65829 Sailboard or Landcraft, Camping Goods nes

Of these products tents had the largest export market. It contributed 59% to the total exports in this category. Average growth rate of this product was 2.3% per annum. Second largest category was tarpaulins etc. It accounted for 24% of the total exports. Its average growth rate was higher than that for tents. (9.5%)

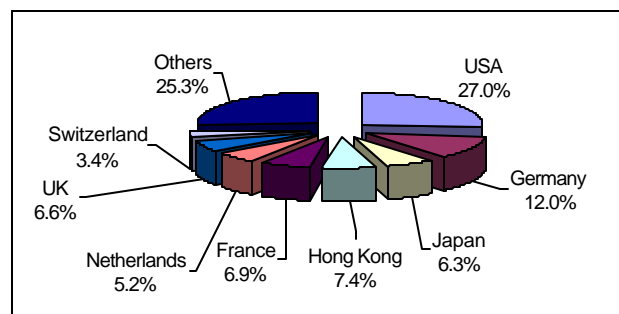
6.6.1.1. Major Exporters

China is the largest exporter capturing 35% share of the total export market. It exported 24.7 million canvas products worth of \$301 million in 1997. Average growth rate in value has been 21% per year. Korea is the second largest player but it is getting out of this market at a rapid rate. Average rate of decline for Korea has been 9% per annum. From the European continent, Germany and France are the major players capturing 6% and 55 shares of the world export market. Pakistan is also amongst the list of top exporters. Its total exports in 1997 were 15.6 million kg that fetched \$47 million as export earnings. Pakistan has a satisfactory market share of 5%.

Figure 6.6.1: Major Exporters of Canvas Products 1997

6.6.1.2. Major Importers

Import market is quite evenly distributed between different regions of the world. USA is the top importer. In 1997, it imported 32 million kg of canvas products and paid \$236 million for that. That translated in having 28% share of the total imports. USA market is not only largest in terms of its size but it grew at a very high rate also during the period 1993-97.

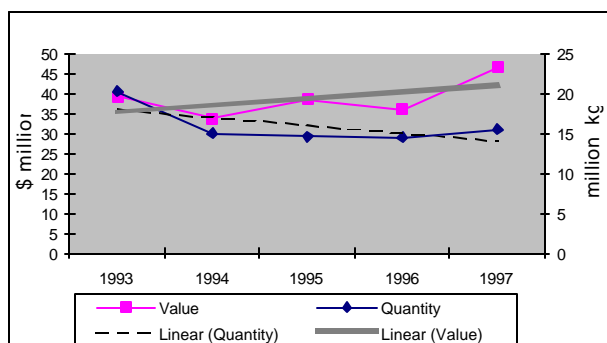
Figure 6.6.1: Major Importers of Canvas Products 1997

Average growth rate of USA imports has been 13% for this period. Germany imported 23 million kg of canvas products that cost it \$105 million. Average growth rate for Germany has been 3.5%. UK market though relatively smaller compared to other markets has a very handsome growth rate of 15%. It is interesting to note that average growth rates of all the major importers of canvas products have been positive.

6.6.2. Pakistan's Performance in Canvas Products

Pakistan's exports of canvas products from 1993 to 1997 are shown in Figure 6.6.1 below. Pakistan's exports show very interesting trends. Looking at the linear trend lines for quantity and value exported, it can be seen that the quantity exported is at a decline while the export value is at a rise. This indicates that the average unit price of Pakistan has increased in the period 1993-97. Export value has grown from \$39 million to \$47 million at an average annual rate of 5.8%. Decrease in quantity exported has been -5.5%. This indicates a shift in the mix of the product exported from Pakistan.

Figure 6.6.1: Pakistan Export Performance



Pakistan's performance with reference to international trade in different products is shown in Table 6.6.1 below.

Table 6.6.1: Pakistan's Performance in Comparison with Global Market Scene - 1997

	Total World Market	Pakistan's Exports \$ Million	Export Market Share
Tarpaulins (65821)	188	17	9%
Tents (65822)	458	27	5.9%
Pneumatic Mattresses (65824)	36	0.075	0.2%

In the categories of sails and goods nes, Pakistan does not have any exports. 61% of the total exports from Pakistan were of tents, the rest accounted by tarpaulins. Mattresses is not the main product of Pakistan's exports.

Table 6.6.2 : Pakistan's Exports of Canvas Products

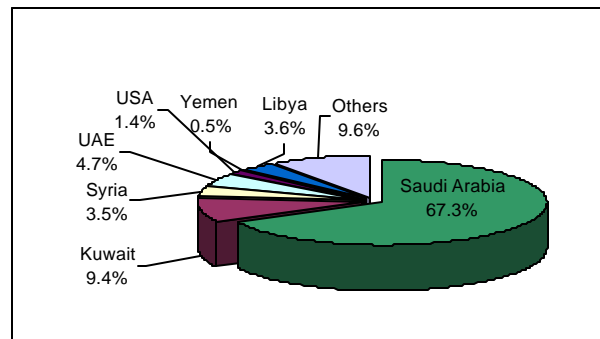
SITC	Product	1998-99		1997-98	
		Quantity (kg)	Value '000' Rs	Quantity (kg)	Value '000' Rs
Total exports in 65821		743,679	88,716	1,079,807	142,977
6582102	Awnings & Sunblinds of Cotton	228,594	25,257	60,731	7,089
6582103	Tarpaulin of Synthetic Fibre	515,085	63,459	1,019,076	135,888
Total exports in 65822		12,819,668	1,495,855	12,706,022	1,496,667
6582201	Tents of Cotton	12,650,532	1,474,219	12,669,163	1,490,727
6582202	Tents of Synthetic Fibre	169,136	21,636	36,859	5,940
6582400	Pneumatic Mattresses	0	0	23,684	2,044
6582900	Camping Goods nes	11,000	2,066	16,150	2,939
Total		13,574,347	1,586,637	13,825,663	1,644,627

Exports of Pakistan have decreased from 1997-98 to 1998-99. In dollar terms, total exports in 1998-99 were \$34.5 million (@Rs 46/\$). This is 22% lower than the value of 1997. Within the tarpaulin category, major share of about 70% is that of tarpaulins of synthetic fibres. In the tents category, the situation is reverse and major exports are of cotton tents. 98% of the total tents exported from Pakistan are cotton tents. There were no exports of Camping goods nes in 1997 but in the next two years Pakistan has exported products in this category also, although its share is very small.

6.6.2.1. Pakistan's Trading Partners

Pakistan's trading partners in canvas products are very different from all other textile products. In almost all of the other products of textile, major importers list included developed countries like USA, Japan and countries in Western Europe. But for this product, all the major exports from Pakistan are going to Middle East. Two third of the exports are going to only one country that is Saudi Arabia. In 1997, 9.5 million kg of canvas products were sent to Saudi Arabia for \$31 million. Kuwait is the second largest importer of Pakistani tents and tarpaulin. In the list of top importers from Pakistan, only USA is not situated in Middle East. Its share in the total exports is only 1.4%.

Figure 6.6.1: Pakistan's Major trading Partners for Tents & Tarpaulin



The reason for this trend is the culture of those countries. The use of tents in those countries is quite common. Saudi Arabia is a large importer of tents due to the occasion of Hajj. Million of tents are needed at the time of Hajj and Pakistanis the major supplier of this product.

Comparing Pakistan's major importers with the world's major importers, Pakistan is completely out of sync with the world market mix. The countries of Middle East are not included in the list of major importers. USA is the largest importer but only 1.4% of Pakistan's total exports went to that market. Pakistan does not have any major exports to markets like Germany, Japan, Hong Kong and France. These is an opportunity for the Pakistani canvas products' manufacturers and exporters that they should target these markets and get Pakistan its due share. The nature of the canvas products to be used in European and American continents will be different from the products used in Middle East. Tents sent to Middle East would be meant for desert use while those going to other markets would be used for camping purposes in different environments.

6.6.2.2. Unit Price Realization-1997

Unit price comparison of different competitors for canvas products is shown in Table 6.6.1 below:

Table 6.6.1: Canvas Unit Prices

Country	\$/kg
UK	16.3
USA	14.05
France	11.81
Italy	9.34
Germany	9.08
Korea	7.50
Netherlands	6.68
Pakistan	3.01

The situation demands a lot of improvement in Pakistan's performance. Pakistan's unit price is only 3.01 \$/kg which is lowest in the list of major exporters. UK has the highest unit price, which is more than five times (540%) higher than the Pakistani unit price. The reason for this big difference is the product selected

by the Pakistani manufacturers and exporters. They need to diversify their product line to include higher value added canvas products.

Unit price of China is not comparable directly because the reporting of quantity exported from China is in number units and not in weight units. China's price per piece was calculated as \$12.1. Using an estimate of 15kg/piece, the unit price of China is \$8.1/kg, which is much higher compared to that for Pakistan.

7. Apparel

7.1. World Trade in Textiles and Clothing

Growth of world population and the consumption patterns in developed countries have a marked effect on the global trade of textiles and clothing. There has not only been an inevitable increase in the trade of textiles to meet the demand, but the composition of textile trade has also undergone significant changes.

The recent trends in textile and clothing are characterised by continued growth globally. World trade reached a total of US\$ 332 Billion in 1998 (textiles: \$ 155 Billion, clothing: \$177 Billion). It is also noteworthy that over the past decade, clothing trade has advanced at a faster rate as compared to textile trade. The textile trade increased at an overall growth rate of 3.2%, whereas the clothing trade increased by almost 82% from 1990 through 1998. Another revealing development has been the shift in world trading patterns, particularly favouring a number of Asian countries such as China, Indonesia, Korea, Bangladesh etc. In 1997, over 59% of textile exports and 70% of clothing export originated from Asia. According to WTO estimates; with the elimination of quotas in the year 2005 the total trade of textiles and clothing will exceed the US \$ 500 billion mark. The growth will be driven by the clothing sector, which will constitute almost 70% of the total trade.

Figure 7.1.1: World Textile & Clothing Trade 1990

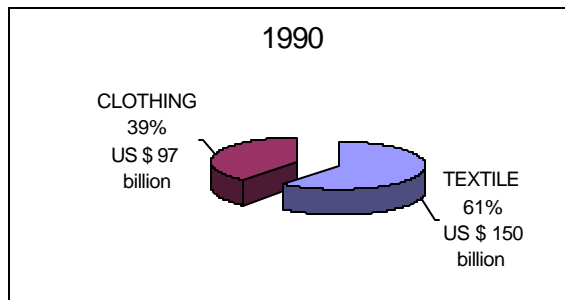
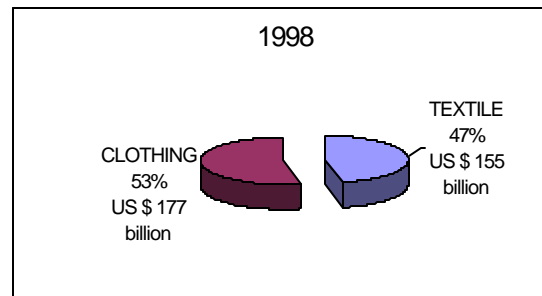


Figure 7.1.2: World Textile & Clothing Trade 1998



7.2. Trends in Global Markets

Out of a total trade of US \$ 332 billion of clothing trade, EU and USA account for 60% of the total imports. The quantum of the imports, US \$ 196 billion, very clearly depicts the importance of these two markets in the global textile/clothing scenario. The share of these two markets in the global clothing trade is 73% and in that of the textile trade is around 43%. This refers to the increasing labour costs in these economies, which has resulted in a shift of production from value added textile articles including apparels, from developed countries to the developing countries. This shift is however more evident in the USA than in EU.

The total textile imports in the region are to the tune of US \$ 54 billion. The European countries having a technological advantage in the textile spinning, weaving and processing still hold a significant share in the global production of textile yarns and fabrics. This is also supported by the inter-regional trade of textiles in the European countries, showing that 72% of the textile imports by EU are from within the Western European countries. The share of Asian countries in the total imports of textile articles is only 16%. The USA, a small player as compared to the EU region imports US \$ 12 billion worth of textiles. The North American region and the Latin American countries jointly constitute 24% of the total textile imports. Regional textile imports are shown in Figure 7.3.1 & Figure 7.3.2

Figure 7.2.1: Textile Imports in EU by Region

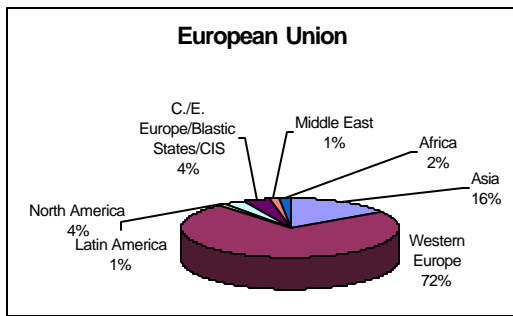
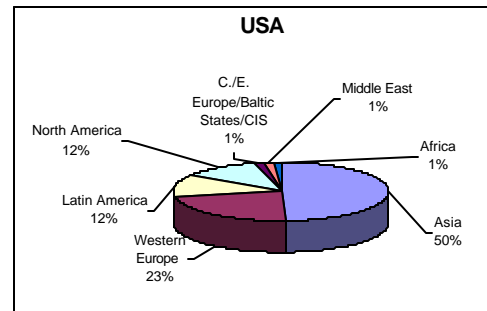


Figure 7.2.2: Textile Imports in USA by Region



The clothing sector leading the thrust of the overall textile trade accounts for almost 60%, (US \$ 80 billion) of the EU's textile and clothing imports. The clothing segment represents the textile garments as well as the made-ups. In this segment the Western European countries again turn out to be the leading exporters to the EU, meaning thereby that the requirements are being met from within the region. However the Asian countries with a total share of 30%, export more than US 40 billion worth of clothing. The phenomenon of rising labour costs can be observed in the trade figures of clothing segment, the Eastern European countries have a 10% share in the EU imports.

The USA alone imports around US \$ 30 billion worth of clothing articles from the Asian countries. The Latin American region is the second largest exporter in the category with a 28% share in the imports. The trade figures speak volumes about the importance of the Asian region in the global clothing exports. Around US \$ 70 billion worth of clothing exports, (to EU and the USA) are generated from the Asian region. The changes in the international trade scenario leading to the formation of strong regional blocks can have its negative effects on the strong position of the Asian countries. Enhanced competitiveness will be the only success factor in the international textile arena. Clothing imports of both EU and USA by region are shown in Figure 7.2.3 & Figure 7.2.4.

Figure 7.2.3: Clothing Imports in EU by Region

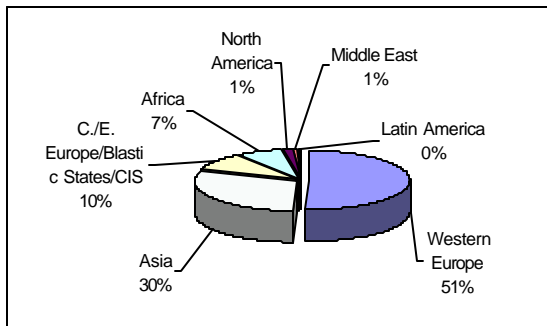
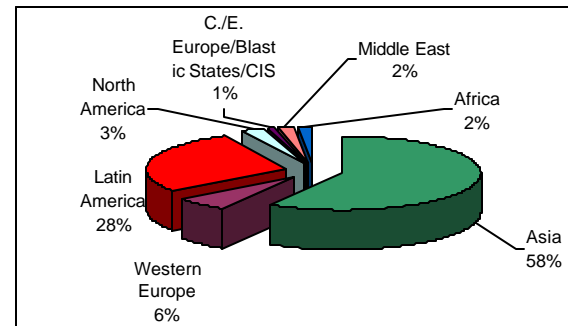


Figure 7.2.4: Clothing Imports in USA by Region



7.3. Regional Trade Flows

Trade barriers, tariff as well as non-tariff, determine the flow of international trade. To balance the effects of globalisation, the world market of textile & apparel exports is gradually consolidating into well-defined regional trade blocks. The future success of any textile and apparel exporting country is facilitated by its ability to associate effectively with a regional trade block. Pakistan has also not been able to reap the benefits of any preferential treatment given by the developed countries, such as treatments being enjoyed by Bangladesh in the form of GSP (General System of Preferences). The situation however presents an opportunity for exploring regional trade within Asia. Our competitors have already started taking advantage of this opportunity; Intra Asia trade accounts for a huge 28% of the global textile and 12% of the clothing

trade. Countries like Indonesia and Korea are investing in garment exports to the regional markets and creating regional brands which can prove to be the launching pad for a global brand.

Table 7.3.1: Intra Regional Trade

	Value 1997 Textile	Share in Global Trade	Value 1997 Clothing	Share in Global Trade
Intra-Western Europe	43.8	28%	44.2	25%
Intra-Asia	43.3	28%	29.1	12%
Asia to Western Europe	8.4	5%	21.5	11%
Western Europe to C./E. Europe/Baltic States/CIS	7.1	5%	19.4	*4%
Asia to North America	6.8	4%	11.3	16%
Western Europe to Asia	4.4	3%	7.7	
Latin America to N. America				6%

* Direction of trade flow reverses.

7.3.1. Share holders in Regional Trade

In the post cold-war world a new and dramatic global order has emerged and is continuing to develop into the new century. The WTO as successor to GATT, is in the middle of on going process towards international economic liberalization. On the other hand, in Europe and North America, the EU and NAFTA respectively illustrate the growing trend to create regional economies.

It is Asia however that is attracting global attention as the most dynamic growth region in the world today and is likely to drive the world economic development as we head into 21st century. With its population as 47% of the world total and GDP of \$6.4 trillion, which is 27% of the world total, all reports indicate that the economic growth in Asia would surpass the world economic growth of 2.7%.

Figure 7.3.1: Exports of Textile by Region (US \$ billion) 1997

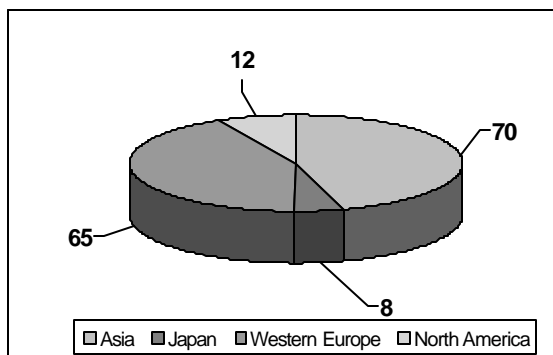
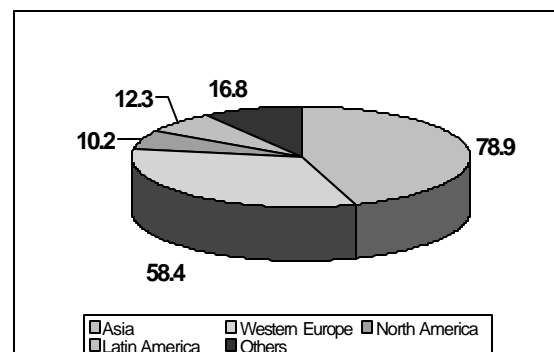


Figure 7.3.2: Clothing Exports by Region (US \$ billions) 1997



Despite the tendency towards relocation abroad, most developed countries have nevertheless succeeded in maintaining a local textile industry, which is both viable and competitive on the international level. This is mainly due to their unprecedented efforts at modernising and restructuring their production processes. The textile industry in developing countries has increasingly placed emphasis on quality; rapid response to the growing demand and innovation in the area of fibres and high value added textiles. This has been a strong contributing factor which has enabled the Asian countries to reach US \$ 150 billion worth of exports in clothing and textiles.

The high growth in clothing exports from developing countries was mainly due to the success of East Asia. For example, between 1985 and 1990, the clothing production in Philippines, Indonesia and Malaysia increased by 139, 110 and 78 percent respectively. Over the past decade China has become the major world producer and supplier of clothing. In 1997 exports from China amounted to US \$ 38 billion.

7.4. Emerging Global Trade Trends

Clothing imports across the board are increasing at a faster rate than textile imports. This pattern is expected to continue. Clothing has increased its share of world imports from 51.4 % in 1990 to 55 % in 1997. However in the case of clothing exporters, early years of 1990s saw a growth of textile imports as textile suppliers were divided in two groups, suppliers of yarn & fabric like Pakistan, and those who converted these into garments; countries like Bangladesh, & China. The latter group started with a thrust on garment manufacturing and later built their capacities. For example total textile imports of China grew by 126% while textile imports declined by 7% from 1995-98. That was the time when these countries effectively integrated backwards. The same holds true for India; Pakistani textile industry however did not effectively built enough backward capacities during the same period.

Textile imports:

China	1990-96	increase of	126%
	1995-98	decrease of	7%
India	1990-96	increase of	44%
	1995-97	decrease of	7%
BUT Pakistan	1990-96	Decrease of	12%
	1995-1998	Increase of	8%

Clothing imports into developed countries are increasing at a staggering rate

USA	1990-96	increase of	61%
EU	1990-96	increase of	25%

7.4.1. Does Pakistan Follow Suit?

The share of clothing is rising in the world markets, but Pakistan's exports have a low share of value added goods. The following table shows the export trend of the World and of Pakistan. The source of the data is World Trade Organisation (WTO).

The total world exports (textile and clothing) have been indexed. The bias of Pakistan's exports towards textiles (low value added) has continued to increase its share in a shrinking market. Following its historical trend, it would end up with a much higher share in the low value added segment and thus result in low export earnings. The figures in Table 7.4.1: Pakistan and the Global Textile & Clothing Trade suggest that it is high time for the textile industry of Pakistan to diversify and increase the share of clothing of high value added garments and made-ups in its export portfolio.

Table 7.4.1: Pakistan and the Global Textile & Clothing Trade

%	1992-93	1997-98	2002-3 estimated
World exports	100	100	100
Textile	45.4	42.8	36
Clothing	54.6	57.2	64
Pakistan's exports	100	100	100
Textile			
Clothing	75.8	75.2	63
	24.2	24.8	37

7.5. Global Changes

The competitive environment in textiles and clothing is undergoing many profound changes. The major driving forces for these changes are:

7.5.1. Globalization of Competition

As barriers to world trade are broken down progressively, markets are becoming more global. Consumer demand is increasing in the developing world at a comparatively higher rate than developed countries. Yet another development is that the quality and service levels of products from lower wage and cost countries is improving. *Products are increasingly manufactured regionally and distributed globally.*

7.5.2. Introduction of non-tariff Barriers:

There is no denying the fact that in the coming era of free trade it would no longer be possible for countries to restrict exports from any country and protect its local industry. However trade barriers will continue to remain though they would not necessarily be in the form of tariffs. New restrictions are expected to be in the form of increased concern of developed countries on environmental and social issues. Use of any raw material that can cause any potential threat either to environment or to human health will disqualify for trade. Similarly goods originated from factories non-compliant with social standards like poor working environment and any other standards defined by the importing country will not again qualify for trade.

7.5.3. Regionalisation of Trade

The enlarged grouping of countries in regional pacts will encourage intra-pact trade, which will lead to regional self-sufficiency and the exclusion of outside trade. The countries included in existing regional pacts as chalked out by Gherzi, an international textile consultant, are given in the next table.

7.5.4. Consolidation of Players

Textiles consist of one of the largest value chain involved in any business. Increasing complexities and costs involved in various transactions are forcing different players across the value chain to be consolidated. Strategic mergers across the value chain among manufacturers, suppliers and distribution channels are underway. These strategic alliances are gaining increasing importance.

7.5.5. Serving Markets

World supply capacities will continue to be greater than global demand so buyers will maintain their strength in the markets. Consequently successful suppliers will be those who:

- Respond quickly and reliably to buyer's demands, i.e. show flexibility in production and perform all the contractual obligations.
- Provide Quality at a competitive Price.
- Operate with competitive costs.

7.6. Shift in the Global Trade

The global textile & apparel trade flows have seen a major shift of volume as well as value over the last decade. The growth in export value of clothing & made-ups has shown a considerably higher rate as compared to textiles the trend can be observed in Table 7.6.1: Pattern of Textile & Clothing Trade

Table 7.6.1: Pattern of Textile & Clothing Trade

	Value 1994 US\$ billion	Value 1997 US\$ billion	Change w.r.t. 1994	Value 1998 US\$ billion	Change w.r.t. 1994
Cotton	5.07	6.06	20%	3.89	-23%
Textile Yarn	24.18	30.31	25%	25.48	5%
Fabrics	62.52	73.66	18%	67.01	7%
Made-Ups	10.26	13.31	30%	12.21	19%
Clothing	111.39	138.24	24%	117.95	6%
Clothing Accessories	8.18	11.34	39%	10.94	34%

With each passing year, clothing, made-ups & clothing accessories are gaining a rising share of the world trade. At the same time the share of cotton, yarn & fabric is diminishing. This indicates a direction for Pakistan to enhance its export earnings. Pakistan has traditionally been dependent on the export of cotton & textiles and is in a good position to capture a portion of growing apparel trade. Figure 7.6.1: Tracking the Shift in Textile Trade \$ Billion & Figure 7.6.2: Pakistan's Textile Export Pattern \$ Billion, depicts the position of Pakistan in comparison with the global trade pattern. An obvious shift from textiles to clothing can be observed in the world trade, whereas the exports of Pakistan are still dominated by the low value added segment.

Figure 7.6.1: Tracking the Shift in Textile Trade \$ Billion

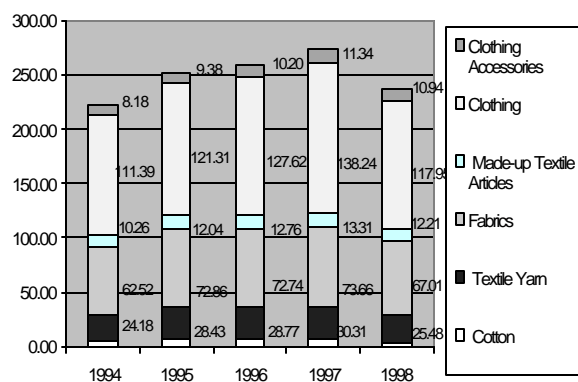
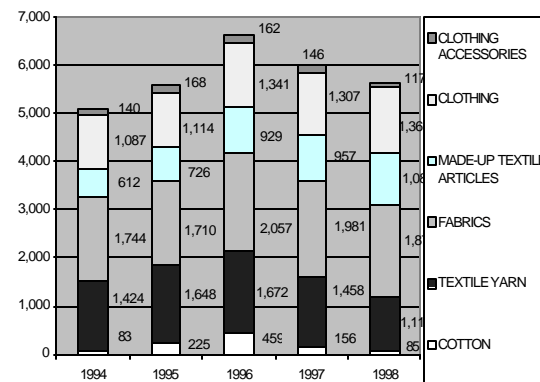


Figure 7.6.2: Pakistan's Textile Export Pattern \$ Billion



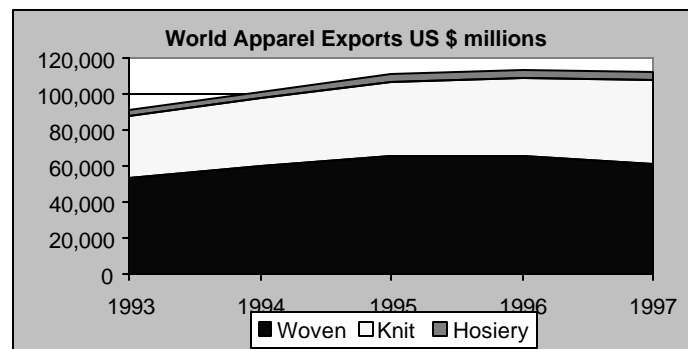
All major competitors of Pakistan have shifted towards the trend and are rapidly changing the thrust of their efforts towards the growth & development of apparel industry, which is the added-value segment of the

industry. The growth in the volume of textile trade has sedated Pakistan's industry. As the global demand for apparel and made-ups is growing, there is also a rising demand for higher volumes but lower value textile intermediaries to feed the apparel manufacturers. Pakistan seems to be content with the idea of textile exports. Although the volumes in textile trade are very attractive, it cannot compete with the corresponding trade of apparel products.

7.7. Global Trade of Apparel and its Segments

The apparel/clothing segment is the highest value added link in textile value chain. Apparel accounts for 53% of the total value of global textile trade and is consistently growing since the last two decades. The analysis of global trade in clothing sector is a complex affair as there is a broad range of apparel products traded. Classification is based on the structure of the fabric used i.e. Knit & Woven garments and within these classifications, there are further classifications like men's wear, women wear, sportswear babies wear and hosiery items. The dynamics of world trade of apparel and its marketing aspects, as well as analysis of Pakistan's export market and its competitor analysis can be studied more appropriately, if we divide the apparel sector in the following three basic categories.

Figure 7.7.1: World Apparel Exports



7.7.1. Product Segment of Trade

- a) Woven Garments
- b) Knit Garments
- c) Hosiery

Trade statistics for an overall analysis is obtained from the ITC's (International Trade Centre, Geneva) database PCTAS. The database represents import-export statistics of eighty-four countries on a maximum of a five-digit SITC (Standard International Trade Classification) level, covering all of the important global players. The total global exports of apparel including all of the above-mentioned categories were US \$ 113 billion during 1997, the figure is under-reported due to the fact mentioned above. When observed over a period a five years there is an increase of 24% in value of the international trade in garments. Figure 7.7.1: World Apparel Exports, shows the product mix of world apparel exports.

7.7.1.1. Woven Garments

The largest segment of apparel trade is that of the woven garments having a share of 55%. More than US \$ 61 billion worth of woven garments including dress shirts, pants, suits, etc were exported during 1997. The increase in value of exports from 1993 to 1997 has been 15%. The growth in value of exports has been rather slow as compared to the knit garments which is also evident from the loss of market share by the woven garments, which constituted 58% of the value of global apparel trade during 1993. Although there is a decline in the value of exports, but the product line of the woven segment is very vast than other segments

resulting to an increase in the volume of exports. Due to increased competition offered by countries like China, Hong Kong and Indonesia, etc. the value of trade has declined. This will be discussed later in detail.

7.7.1.2. Knit Garments

The knit garments segment having a 42% share in the global apparel trade has grown at a much faster rate than the woven garments. The total exports, which were only US \$ 34 billion during 1993, have increased by 41% during 1997 with a value of US \$ 48 billion. This significant increase in the knit segment is driven by the improved quality and higher volumes of production in the developing countries like China, India and Pakistan.

7.7.1.3. Hosiery

The major portion in this segment includes knitted under-garments and nightwear. Woven under-garments have been included in the woven segment. This comparatively is a smaller segment in the global apparel trade with only 3% share in value. Although there has been a 21% increase in the value of exports, from US \$ 3.2 billion in 1993 to US \$ 3.9 billion in 1997, but the unprecedented growth of the knitted garments has taken the market share away from this segment.

Figure 7.7.1: Shift in Global Apparel Exports

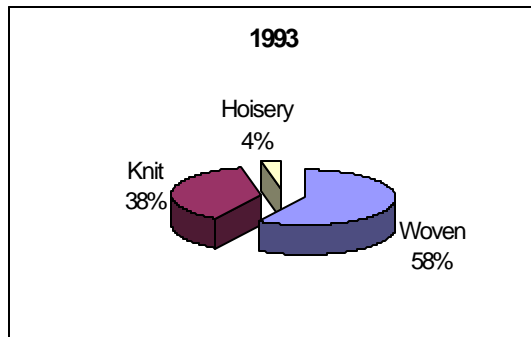
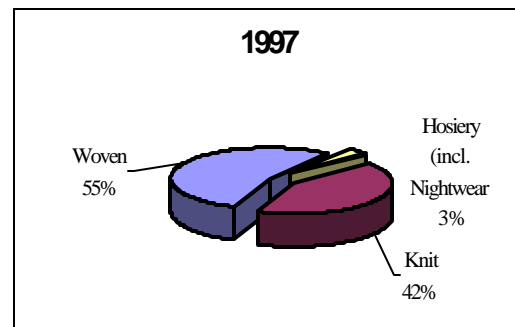


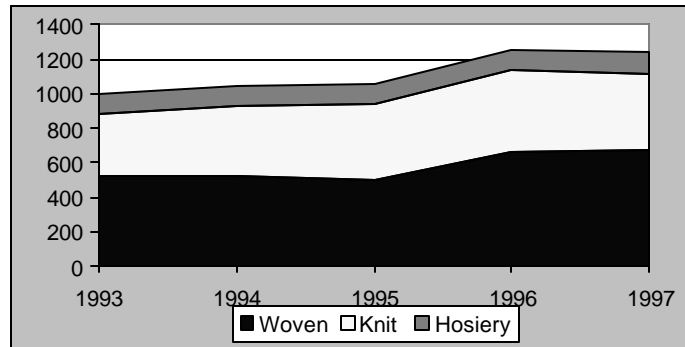
Figure 7.7.2: Shift in Global Apparel Exports



7.8. Pakistan and Global Apparel Markets

Pakistan with total exports of US \$ 1.24 billion has a meagre share of 1% in the global apparel market. The overall growth in the exports has been approx. 29%, the total exports were at the level of US \$ 993 million in 1993. The growth in the apparel sector of Pakistan has been consistent over these years, this was lead by the growth in the woven fabric segment, which grew at a rate of 30% over the same period. The change in the product mix of Pakistan's apparel exports can be observed in the Figure 7.8.1: Pakistan Apparel Exports Product Mix US \$ millions.

Figure 7.8.1: Pakistan Apparel Exports Product Mix US \$ millions



The product mix of Pakistan's apparel exports is not very different from that of the world in case of woven and knit garments, except for the greater share of hosiery in the export portfolio of Pakistan. In hosiery, a much smaller international market segment, the share of Pakistan in the global trade is 3%, which for other segments including knit and woven garments is not more than 1%. The market share of Pakistan in the global trade gives an indication of the potential that exists in the high value added segments. A strategy aimed only at increasing the market share from 1% to 2% actually results in the incremental exports of US \$ 1 billion.

Figure 7.8.2: Pakistan Apparel Exports

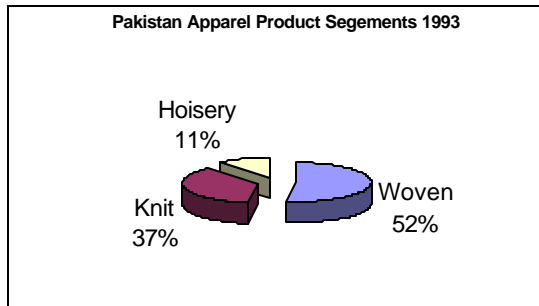
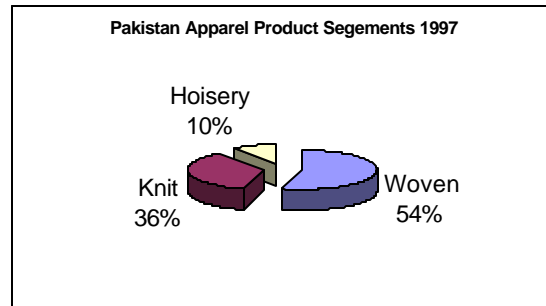


Figure 7.8.3: Pakistan Apparel Exports



The woven sector has grown at an average growth rate of 8% from 1993 through 1997, however the knitted garments and hosiery grew at 6% and 1% respectively. The performance of the apparel sector of Pakistan as a whole has been encouraging. The issue is the optimisation of the textile exports (clothing and textile) portfolio, which is still dominated by the low value added textile products including cotton yarns and fabrics. The size of the global markets is large enough to absorb the increased conversion of indigenous yarns into fabrics and fabrics into high value added garments. Change in Pakistan's exports can also be seen in Figure 7.8.2: Pakistan Apparel Exports & Figure 7.8.3: Pakistan Apparel Exports.

7.9. Apparel Trade Analysis

The apparel trade mentioned in the broader categories above, can be further classified into sub-product categories, this includes the following.

- a) Menswear Knit & woven
- b) Women wear Knit & Woven
- c) Babies wear Knit & woven
- d) Sportswear Knit & woven
- e) T-shirts & pull over not covered elsewhere.
- f) And
- g) Hosiery items

This grouping is primarily based on SITC group classification and then is separated into knit & woven groups. Each of these groups comprises of a variety of different products at five digit level and beyond. The description of these products with their SITC codes is given at the end of the document.

Before going into individual analysis of each of these product groups it would be appropriate to draw a comparison between their average growth rates.

Table 7.9.1: World Market Average Growth Rates 1993-97: (*Value terms*)

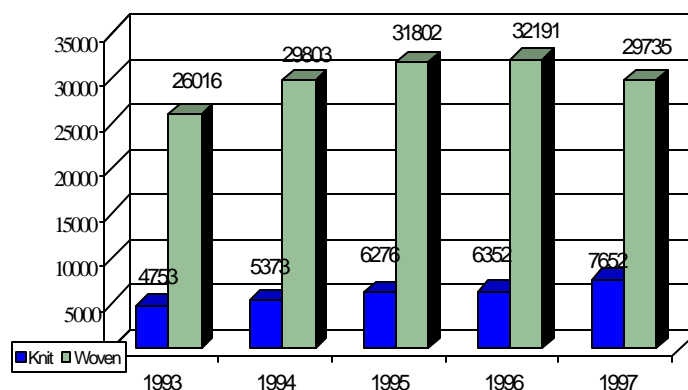
Product Type	Average Growth Rate	Share in total world imports
Women Clothing Woven	4.19%	25%
Women Clothing Knit	9.93%	7%
Men's Clothing Woven	4.27%	23%
Men's Wear Knit	16.35%	6%
Sports Wear Woven	2.29%	2%
Sports wear Knit	7.22%	1%
Babies Wear Woven	3.13%	1%
Babies Wear knit	9.10%	2%
Hosiery, Underwear & nightwear	7.26%	10%
T-shirts and Pull-Over	7.41%	23%

Total world imports of Apparel only was US\$ 148 billion in 1997. Woven men & women clothing constitute 48% of the global apparel trade value. However growth rates of apparel groups are higher for knit garments as compared to those of woven garments. Highest growing area has been men's knitwear and it is really encouraging to see that this is the primary category for exports from Pakistan. The total imports of knitted men's wear have shown an increase of 16.35% p.a. since 1993 standing at \$ 9 billion in 1997. Women Knit garments have grown by 9.93% over the same period of time. Babies wear specially knitted is another growing trade area that registered a growth rate of 9.10%. By taking into account the global trade patterns and effectively realising upon opportunities, Pakistan should further strengthen its already strong position in knit garments. However large opportunities presented by woven garments must be a priority area for garment manufacturers and exporters from Pakistan. There exists an opportunity to capture a sizeable portion of growing global apparel trade. All major competitors of Pakistan are aligning their product mix in response to the changing trends and are rapidly enhancing their efforts towards marketing and upgrading of the infrastructure for readymade garment exports.

7.9.1. Men's Clothing

Men's clothing is the second largest product category in garments in value terms and accounts for total global imports of US\$ 43 billion. It has a total share of approx. 30% in total global apparel trade. Men clothing is split between woven garments (79% share in export value) and knitted garments (21% share in export value).

Figure 7.9.1: World Exports Men Clothing (US \$ millions)



Men's clothing has maintained a steady growth in global trade, however this growth has been more profound during the early nineties. It was primarily due to the growth in value associated with increased share of the branded products in the segment. However, since late nineties the exports of men's wear seems to hit the plateau and thus a stabilised growth is expected in coming years.

7.9.1.1. Markets

Woven men-wear is the second largest apparel segment. Total global imports in this category are around US\$ 34 billion. USA constitutes the largest market of men garments. Out of total world imports of \$ 34 billion, USA imported \$10 billion worth of men's woven garments. America alone accounts for almost one third of the total global imports in the woven men garment segment. Another characteristic of the menswear woven market is that top ten importing countries account for 87% of the total global imports. Europe constitutes the second largest market of men's woven garments. European union as a single market accounted for 37% of global imports making it even larger than the USA. Although E.U is the largest economic block, still each member country has its specific apparel requirements depending upon a diverse range of consumer preferences.

Table 7.9.1: Global Imports Men's Wear Woven 1997

Menswear-Woven	Value US \$ 000	Share %
World Imports	34,645,032	
USA	10,357,449	30%
GERMANY	4,508,837	13%
JAPAN	3,379,368	10%
HONG KONG	2,402,822	7%
FRANCE	2,206,724	6%
UNTD KINGDOM	2,121,592	6%
ITALY	1,590,659	5%
NETHERLANDS	1,280,405	4%
BELGIUM-LUX	994,285	3%
SWITZERLAND	630,289	2%

Japan and Hong Kong also have a significant share of woven menswear. Japan holds a 10% share of total import market of men's wear. This translates into import value of \$3.3 billion into Japan only in this category. The figure is almost twice as large as total exports from Pakistan in Apparel as a whole. Hong Kong is another major importer of woven menswear, having a share of 7% in global menswear woven imports.

Table 7.9.2: Global Imports Men's Wear Knit

Menswear-Knit	1997	
	Value	Share %
World Imports	9,186,728	
USA	3,071,197	33%
JAPAN	1,015,281	11%
GERMANY	569,928	6%
HONG KONG	703,948	8%
UNTD KINGDOM	655,943	7%
FRANCE	407,090	4%
NETHERLANDS	828,790	9%
ITALY	303,363	3%
SINGAPORE	253,092	3%
BELGIUM-LUX	204,346	2%

The market of knitted garments has grown tremendously over the past two decades. But knitted men's garments constitute only 20% of the total menswear imports, \$9 billion in 1997. USA again is the largest single market in this category, with total imports of \$ 3 billion. Even in this segment the USA holds one third of the global market share. European union is the second largest single block with total imports of around \$3 billion. The combined share of E.U countries is 31% in total imports. Another major observation in this product market is an increased share of imports in non-quota countries i.e. Japan, Hong Kong & Singapore. These three, markets combined together hold a total share of 22% of world men's wear imports having a value of \$2 billion. This becomes vital when we consider the fact that these three markets have many common characteristics in quality standards and buyers' preferences. Japan alone with 11% share in imports is the second largest importing country for menswear knitted. Hong Kong however has moved up in the ladder in this category and is the fourth largest importer of menswear with total imports of \$703 million in 1997. Similarly Singapore also has a decent share in this category with annual imports worth of \$253 million. Table 7.9.1: Global Imports Men' s Wear Woven & Table 7.9.2: Global Imports Men's Wear Knit, show the markets of men apparel.

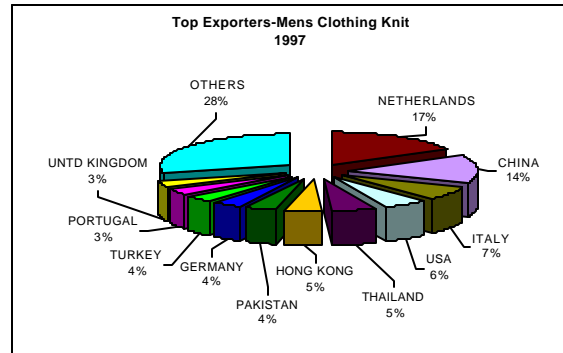
7.9.1.2. Competitive Environment

The global men's-wear woven market is characterised by the presence of a limited number of buyers, being catered by a large number of sellers. Only ten major importers account for roughly 87% of the total world imports, top ten exporters account for only 70% of the market. This results in fierce competition among the exporting countries. Among all the exporting countries, China is one exception, which holds a major share of 24%, all of the other exporters are small players. Individual players hold only 3-6 % of total market. Pakistan is also present in Top ten exporters in this particular category. A share of 2% in men's woven garments makes Pakistan a major player in the market. However a threat in this regard could arise due to an increased pressure on lead times as consumer preferences change rapidly. A few peripheral hubs have emerged in proximity to both the major markets including EU and USA. Mexico is one such example, which now has a share of 4% in the exports to USA. Similarly, African and peripheral European countries with lower labour costs and lesser lead times have increased their penetration in the EU market. Countries like Tunisia, Portugal, & Netherlands now hold an increased share in global trade. With preferential trade status, some of these countries enjoy and inherent geographical advantage, it would become increasingly difficult for countries like Pakistan to compete only on cost.

Figure 7.9.1: World Exports Men Clothing Woven



Figure 7.9.2: World Exports Men Clothing Knit

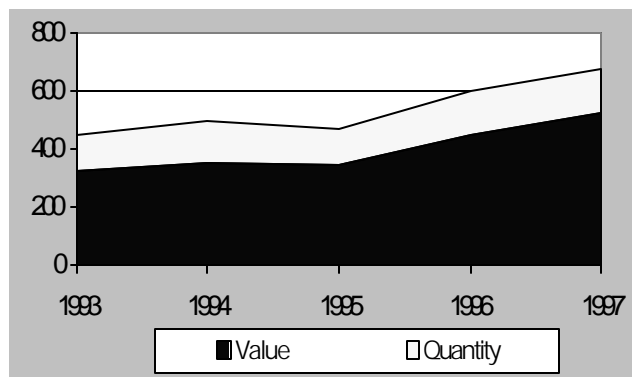


Exports market of knit garment is even more fragmented when compared to woven segment. The largest player again is China holding 14% share of the total market. Turkey has made an appearance in this segment with 4% share of the total market indicating the advantages of a preferential treatment offered by the largest economic block. Pakistan has a very strong base in Knitwear, which is reflected here in its 4% share in the global export market.

7.9.1.3. Pakistan and the Woven Men Garments

Pakistan has a very solid base in men's garment segment. In 1997 exports of Pakistan in woven men's garments were \$519 million. This level of exports earns Pakistan a share of almost 2% in total world imports of woven men's garments. The Figure 7.9.1: Pakistan Exports of Men's Wear Woven, shows the exports of woven men's wear. The growth in this product has been significant since 1993 when export value was \$324 million. Another important aspect of this growth is the marked increase in the unit price realisation of exports. The effect would have been twofold had there been a simultaneous increase in production volumes. The increase in the value of exports is almost 60% from 1993 to 1997, whereas the volume has increased by only 31%. Pakistan exports in the category are primarily in cotton trousers and shorts with exports of \$199 million in 1997. Second major export category is cotton shirts of which Pakistan exported \$180 million in the same year.

Figure 7.9.1: Pakistan Exports of Men's Wear Woven (Value \$ millions, Quantity million pieces)



Pakistani market mix in this particular product group is in line with global trends. USA is the largest single market in woven men's garments and Pakistani exporters have rightly targeted it. In 1997 Pakistan's exports to the USA in woven men's garments were \$260 million. This makes the USA largest importing country for Pakistani woven men's wear with a share of 47%. Cotton shirts is the largest export item from Pakistan to USA with exports of \$126 million in 1997, followed by exports of trousers and shorts of \$68 million.

Another 4% or \$20 million worth of exports are directed towards Canada. Exports to European Union in this category were \$ 153 million in 1997. Germany is the largest market for Pakistani products in E.U with total imports of men's woven garment to the tune of US \$ 64 million, followed by U.K. & Franc.

Table 7.9.1: Pakistan's Market Wise Exports of Men's Wear Woven

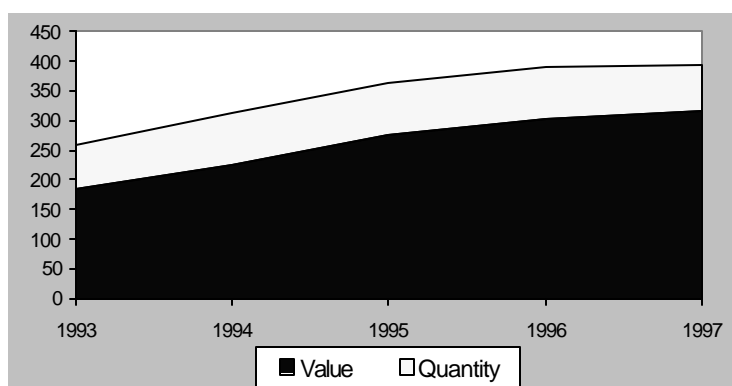
Exports of Pakistan Menswear Woven 1997	\$ Million	Number of units '000	Share in Value	Share in Qty
WORLD	519	156,261		
USA	260	73,946	50%	47%
GERMANY	64	21,999	12%	14%
UNITED KINGDOM	40	11,575	8%	7%
FRANCE	34	10,501	7%	7%
CANADA	20	5,909	4%	4%
NETHERLANDS	17	5,708	3%	4%
BELGIUM	15	4,598	3%	3%
ITALY	17	4,645	3%	3%
U.A.E	7	2,237	1%	1%
SAUDI ARABIA	5	0	1%	0%
Others	40	15,143	8%	10%

Pakistan has unfortunately not been able to penetrate in the non-quota markets including Japan & Hong Kong, which together imported woven garments of \$5.7 billion comprising 17% of total world imports in 1997. Due to high tariff barriers on import of fabrics in Pakistan and limited variety of local fabrics the domestic apparel manufacturers have been unable to develop products for these markets.

7.9.1.4. Knitted Garments and Pakistan's Exports

In knitted men's wear exports of Pakistan are less than in the woven men's garment segment. In 1997 the exports of knit men's wear were \$314 million, while in woven, men segment, the exports are almost 65% higher. However this fact is understandable when the overall global value in both categories are taken into account. With an exports of \$ 314 million Pakistan holds a market share of 4.5% of the world imports. Here again quantity growth has been stagnant since 1993 registering a meagre rise of 5 million units while export earnings showing a substantial growth, which increased by more than 70% in five years. However this growth in value has now stabilised indicating that it would be impossible to increase export value without product and market diversification.

Figure 7.9.1: Pakistan Exports of Men's Wear Knit (Value \$ millions, Quantity million pieces)



Markets of knitted men's garments are more or less same as woven garment segment. However one important observable fact here is that USA accounts for 73% of total exports from Pakistan in value terms. America is the largest market for men's knit garments, with a share of 33% in world imports and total value of \$ 3 billion. However, dependence on such a massive scale on a single market makes the knitted segment of Pakistan highly vulnerable to the fluctuating business cycles in the USA and its developing trade ties with other suppliers. The vulnerability is likely to increase further after the MFA phase-out, which will lead to fierce competition from emerging players. Another important fact in this regard is that Mexico, being a part of NAFTA, enjoys a preferential trade status with America and is building its fabric knitting and stitching base at a very rapid pace.

European union is the second largest destination for Pakistan's knitted menswear with a share of 18% and value of \$54 million. This is a much smaller trade volume when compared to \$229 million of exports to the USA. Complete absence of Japan, Hong Kong and Singapore from Pakistan's knit garment export portfolio is highly disappointing. These three countries account for 22% of total world imports in this category. The value of imports is around \$2 billion.

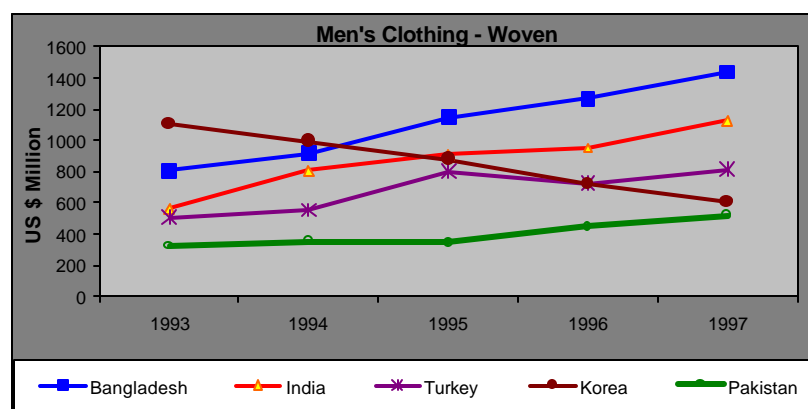
Table 7.9.1: Pakistan Export Markets of Men's Wear Knit

Exports of Pakistan Menswear Knit-1997	\$ Million	Number of Units '000	Share in Value	Share in Qty
WORLD	314	78		
USA	229	53	73%	68%
GERMANY	14	5	5%	6%
UNTD KINGDOM	18	5	6%	7%
CANADA	11	3	3%	4%
FRANCE	7	2	2%	2%
NETHERLANDS	7	2	2%	3%
UNTD ARAB EM	3	1	1%	1%
BELGIUM	6	1	2%	2%
ITALY	2	0	1%	1%
SAUDI ARABIA	2	1	1%	1%
Others	15	4	5%	5%

7.9.2. Regional Competition

Rising production costs in Europe and America, and introduction of business to business transactions through internet has resulted in an increased share of the Asian manufacturers in the exports of textile and clothing products. Therefore competition for Pakistan in this segment lies with its Asian counterparts. Major Asian players in the garment market are China, Bangladesh, India, Indonesia, Turkey and Korea in addition to Pakistan. The export trends of these countries can be seen in Figure 7.9.1: Asia and Men's Woven Clothing Exports and Table 7.9.1: Asian Exports of Men's Wear Knit.

Figure 7.9.1: Asia and Men's Woven Clothing Exports



China is the largest exporter in woven menswear with total exports of \$7 billion in 1997. Bangladesh has shown a major breakthrough in this particular product category. From exports of nearly \$800 million in 1993 to total exports of \$1.4 billion in 1997. The overall increase in value was almost 75% over a short span of five years. India is another important player in the region with exports of US \$ 338 million, which is 8% more than that of Pakistan. All major players have shown growths in this category except for Korea where the exports of men clothing have declined tremendously. The major cause of this trend is the widespread diversification of the Korean apparel manufacturers in the high fashion women apparel and sports wear for better unit price realisation. During the same period the Korean exports of women and sports wear have increased tremendously.

Table 7.9.1: Asian Exports of Men's Wear Knit

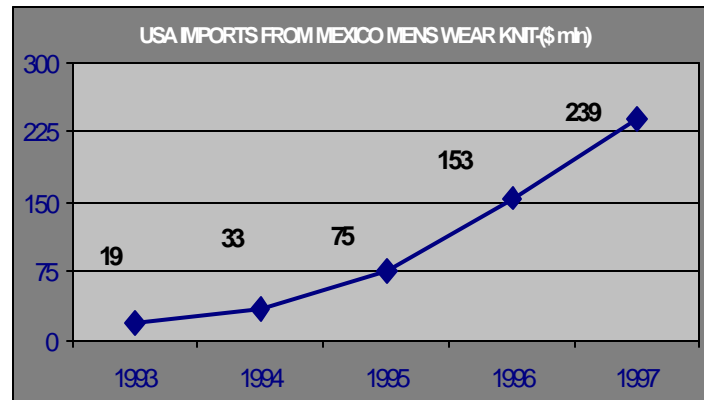
Exports of Menswear-Knit (\$ mln)	1993	1994	1995	1996	1997
China	435	574	522	620	1076
India	299	352	434	271	338
Pakistan	186	224	274	304	314
Korea	377	353	334	289	267
Turkey	108	146	225	250	256
Indonesia	241	210	247	252	226
Bangladesh	31	18	50	61	71

Knit menswear is a smaller market as compared to the woven menswear segment. Among Asian countries Pakistan has performed well and is currently the third largest exporter after China and India. According to latest figure Pakistan's exports in this category have grown to \$ 503 million. Bangladesh is not as substantial a player in the Knit menswear segment, as it is in woven segment.

7.9.3. Mexico an Emerging Exporter

The heavy dependence of Pakistan on USA market and increased penetration of Mexico in USA will negatively impact the growth of trade of Pakistani menswear with USA.

Figure 7.9.1: USA Imports of knitted menswear From Mexico



Mexico holds a share of 13% in total USA imports of woven menswear, which is larger than any other trade partner of USA including China. The share of Mexico in knitted menswear in USA market is 8%, which is larger than any other single exporter to USA. Mexican combined exports of knitted menswear and woven have increased from US \$ 422 million in 1993 to US \$ 1.5 billion in 1997, an increase of 265% in value. Honduras, Peru and Dominican Republic are other exporters to USA, which in coming years will give a tough time to exporters from other parts of the globe. Preferential trade status with USA, and shifting of the garments base from USA to Mexican border towns, primarily due to the availability of cheap labour and compressed lead times are the reasons of Mexico's increased share in the U.S woven menswear imports.

7.9.4. Product Mix & Unit Price Realisation

7.9.4.1. Woven Men's Wear

Both knit and woven menswear comprises of various products at 5-digit and 7-digit SITC levels. The following table lists the major categories of Men's clothing woven. Pakistan has traditionally been trading in men's trousers (SITC 8414) and men's shirts of Cotton (SITC 84151). These two categories account for 65% of total Pakistan exports in woven mens clothing. Compared to our product mix, Bangladesh, China, Indonesia and Korea have a more balanced product mix. The importance of the broad-based exports can be gauged from the fact that the other men's apparel products like jackets and shirts of non-cotton material, etc also have a decent share in the export product portfolio. The export product mix of Asian countries is shown in Table 7.9.1: Export Product Mix of Asian Countries

Table 7.9.1: Export Product Mix of Asian Countries

Comparative Product Mix of Men's wear Woven Garments										
SITC	Description	Pakistan	Bangladesh	India	China	Indonesia	Korea	Turkey		
84112	Over coats/Rain Coats (Cotton)	0.01%	21%	0%	3%	10%	2%	6%		
84119	Coats(Blended)	0.31%	0%	0%	9%	25%	31%	7%		
84122	Suits	10%	1%	0%	0%	3%	0%	1%		
84123	Ensembles	11%	0%	1%	3%	0%	1%	1%		
84130	Jackets & Blazers	8%	6%	2%	10%	2%	17%	8%		
84140	Trousers, bib & brace overall, breeches & Shorts	34%	15%	15%	42%	30%	7%	39%		
84151	Shirts of Cotton	31%	22%	78%	13%	19%	17%	32%		
84159	Shirts non Cotton	1%	33%	3%	14%	10%	23%	4%		
84587	Articles of Apparel	5%	0%	0%	6%	2%	1%	3%		

Overcoats and raincoats made of cotton, blended coats and shirts of synthetic fabric are major products that offer substantial opportunities and hitherto have been neglected by our exporters, it becomes evident after analysing the unit prices of other segments in menswear offered by our competitors, that in order to increase total value of exports Pakistan will have to move towards other categories within woven menswear. Over coats, raincoats, and blended coats are some of the categories with very high unit value realisation. In cotton shirts India has an average unit value of more than \$1.5 per piece. This shows the potential for improvement in the segments of woven cotton shirts for men and boys.

Table 7.9.2: Comparative Unit Price Realisation of Exports Woven Men's Wear

UNIT PRICE REALIZATION \$/Piece					
SITC	Description	Pakistan	Bangladesh	India	China
84119	Coats(Blended)	2.7	N-A	13.0	8.0
84123	Ensembles	2.6	5.1	5.7	6.0
84130	Jackets & Blazers	2.5	5.9	10.6	7.5
84140	Trousers, bib & brace overall, breeches & Shorts	3.2	3.6	3.1	3.0
84151	Shirts of Cotton	3.4	3.5	5.1	3.2
84159	Shirts non Cotton	3.1	2.7	6.4	2.9
84587	Articles of Apparel	2.2	3.3	N-A	5.9
Weighted avg. UV		3.46	3.23	5.44	5.55

7.9.4.2. Knitted Men's Wear

In the knitted menswear segment Pakistan's heavy dependence on single market i.e. USA (73%) and further dependence on a single product i.e. cotton shirt, poses a threat to Pakistan's exports. Over coats, wind Jackets, knit trousers and shorts and blended shirts are not included in Pakistan's product mix. China, Indonesia and Korea have a diversified product base including the above mentioned products. These products become all the more attractive considering low quota utilisation by Pakistan in these categories and, the higher unit values these non-traditional items can achieve.

Table 7.9.1: Export Product Mix of Asian Countries, Men' Wear Knit

Comparative Product Mix Men's Wear Knit-1997								
SITC	Description	Pakistan	Bangladesh	India	China	Indonesia	Korea	Turkey
84310	Over Coats/wind Jackets	0%	15%	0%	2%	7%	1%	3%
84321	Suits	4%	2%	0%	0%	10%	1%	1%
84322	Ensembles	0%	0%	1%	13%	2%	1%	3%
84323	Jackets & Blazers	1%	19%	0%	18%	1%	3%	2%
84324	Trousers, bib & brace overall, breaches & Shorts	5%	9%	6%	53%	14%	6%	27%
84371	Shirts of Cotton	87%	33%	90%	7%	38%	51%	57%
84379	Shirts blended	2%	22%	1%	6%	28%	37%	3%
84389	Bath robes/Dressing gowns	0%	1%	2%	1%	1%	0%	4%

Looking at comparative price realisations, it becomes very obvious that non-traditional items achieve very high unit values. Over coats, wind jackets, suits and blended shirts can fetch somewhere from \$ 5.1 to \$ 10 per unit. Including these categories in the product mix can increase Pakistan's overall weighted average unit value realisation

Therefore market diversification into Japan, Hong Kong and Singapore, Product diversification into over coats, suits and blended shirts, and offering shorter lead times, are the critical factors for the growth of menswear garments exports from Pakistan.

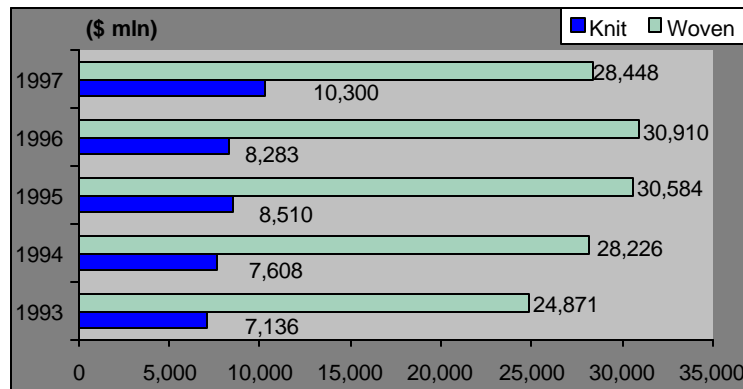
Table 7.9.2: Comparative Unit Price Realisation of MensWear Knit

Comparative Unit Value Realisation Menswear Knit-1997					
SITC	Description	Pakistan	Bangladesh	India	China
84322	Ensembles	1.2	N/A	3.2	4.2
84323	Jackets & Blazers	3.1	5.0	8.4	3.8
84324	Trousers, bib & brace overall, breaches & Shorts	2.3	2.6	2.1	2.3
84371	Shirts of Cotton	3.6	2.0	1.2	2.3
84379	Shirts blended	3.2	2.7	5.1	2.6
84389	Bath robes/Dressing gowns	4.8	0.6	1.6	2.7
Weighted avg. UV		3.8	3	1.5	3

7.9.5. Women Wear

Women wear is the largest single product category of garments in value terms. In 1997 total global imports in this single category were to the tune of US\$ 48 billion. This means that this segment accounts for 32% of the total world apparel imports. Total trade in woven women garments is around \$36.8 billion having with a lion's share of 76% in the women apparel segment. The magnitude of trade in women woven garments can also be measured by looking at it in the broader framework of total apparel exports including the men's and women garments. The woven women apparel constitutes of almost one fourth of the total apparel trade.

Figure 7.9.1: World Exports Women Wear



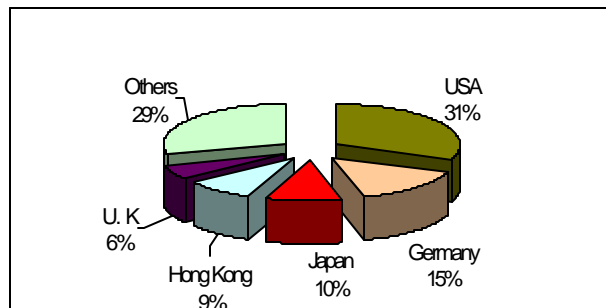
Knitted women garments is comparatively a smaller segment in world imports of \$10.8 billion in 1997. However higher growth rates in value terms of knitted women garments makes this segment highly profitable. The women woven clothing exports grew by 4% during 1993-1997, the knitted segment grew by a healthy cumulative annual growth rate of 10% over the same period. This phenomenon of growth in women knitted garments is also observed in the world's largest market, i.e. the USA. But at the same time the importance of the woven women garment segment cannot be ignored, as it is still the largest segment in global apparel trade.

7.9.5.1. Markets

7.9.5.1.1. Woven Women Wear

Woven women garment is the largest single market with total world imports of US\$ 36.7 billion in 1997. (The figure is higher than total exports of \$29 billion because of reporting problems. The database covers all of the major importing countries and most of the major exporting countries; therefore there is a discrepancy between import and export figures)

Figure 7.9.1: Top Importers of Women Wear Woven



USA, Germany, Japan and Hong Kong are the four largest importers of women woven garments, as in the case of woven menswear segment. USA is the largest market for this category with a share of 31% in total import market. This single market accounts for imports worth of \$11 billion in 1997. The average growth rate from 1993 to 1997 has been 9%.

Table 7.9.1: Woven Women Wear Imports

Women Clothing Woven-World imports		
	Value in '\$'000'	
	1997	
	Value	Share %
Total Imports	36,749,352	
USA	11,314,561	31%
GERMANY	5,545,791	15%
JAPAN	3,650,163	10%
HONG KONG	3,238,500	9%
UNTD KINGDOM	2,283,960	6%
FRANCE	2,035,315	6%
NETHERLANDS	1,199,655	3%
SWITZERLAND	864,605	2%
BELGIUM	922,363	3%
ITALY	795,292	2%
Others	4,899,147	13%

European Union has a larger share than USA with total imports of \$ 12.7 billion in 1997, it accounts for 35% of the total world imports. The markets that have their significance because of them being non-quota markets, are Japan and Hong Kong. These two countries import nearly \$7 billion of woven women clothing which is 19% of total import market for the category.

7.9.5.1.2. Knitted Women Wear

Women knitted clothing is a smaller segment with total imports of \$10.8 billion. Out of which USA alone imports \$2.8 billion worth of women garments. The market is more evenly divided between major buyers. Table 7.9.1: World Imports of Knitted Women Wear, shows the imports of women wear knit.

Table 7.9.1: World Imports of Knitted Women Wear 1997

	Value in '\$'000'	
	Value	Share %
Total Imports	10,858,663	
USA	2,826,494	26%
GERMANY	1,249,757	12%
JAPAN	1,178,594	11%
HONG KONG	1,005,563	9%
FRANCE	582,663	5%
UNTD KINGDOM	712,482	7%
NETHERLANDS	1,131,864	10%
SWITZERLAND	192,882	2%
BELGIUM	238,319	2%
SINGAPORE	182,584	2%
Others	1,557,461	14%

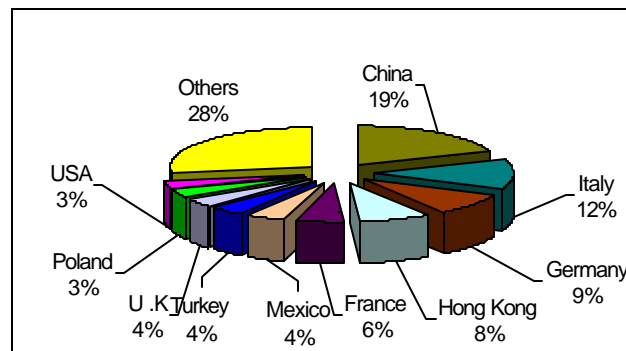
European Union is again the largest importing economic block with a purchase of 36% of total world woven womenwear. Total value of imports of E.U in the category are \$ 3.9 billion. Japan, Hong Kong and Singapore are other major markets with collective imports of \$2.4 billion in 1997. These markets become all the more important considering the fact that imports of Japan in this particular category have grown at an compounded annual growth rate (CAGR) of 19% during 1993-1997.

This is a very high annual growth rate when compared to the 10% growth rate of imports into USA and a negative 3% growth of imports by Germany in this category. Another important feature of Japanese market is that the unit price realisations across different apparel products is much higher than in markets like EU and USA. However these markets have a high demand in specialised products with very stringent quality standards.

7.9.5.2. Competitive Environment

Export market of the woven women-wear is highly contested among major players. China is the largest exporter with a market share of 19% of the global exports. European union is a large buyer of women woven garments, however a substantial portion demand is met through intra- regional trade. With increasing economic union and lowering of trade barriers, intra E.U trade is expected to grow further, presenting a major threat to exporters from Asia. Major exporters from Europe have a market share of 31% in total world exports in this category. Lower cost producers like Poland and other Eastern European countries like Mexico in South America are major threats to other supplier in these two markets.

Figure 7.9.1: Exporters of WomenWear Woven 1997



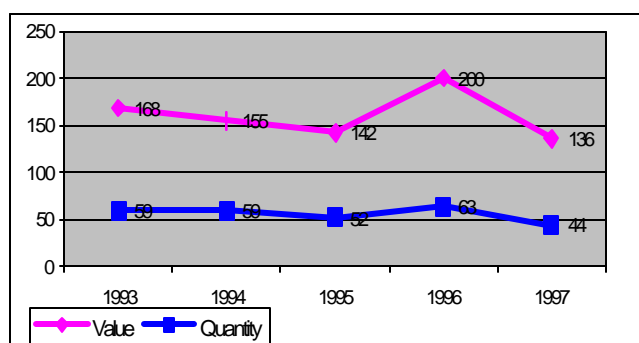
Netherlands is the largest exporter in knitted women garments with a share of 17% in total world imports. Netherlands also has the advantage of physical proximity to European buyers. However this huge level of exports from Netherlands were unusual. From exports of \$ 140 million in 1996, Netherlands achieved exports of \$ 1.7 billion in this category, however exports were back to \$ 221 million in 1998. Therefore this one-year hype can be termed exceptional. China is the second largest exporter of women's wear knit garments. One major observation is the absence of any Asian country in the list of top ten exporters. Major reason of this is the complexity of knit women garments and rapid design fluctuations that demand highly compressed lead times.

7.9.5.3. Exports of Pakistan

7.9.5.3.1. Exports of Woven Women Wear

Despite the fact that womenwear has the largest share of 33% in the global apparel exports, Pakistani manufacturers and exporters have not been able to gain a reasonable share in the total trade of this segment. Pakistan's exports in woven women wear were US \$ 136 million during 1997, which dropped by 17% over a period of five years, during 1993 the exports in this segment were US \$ 168 million. This is not a very impressive performance, particularly for a growing global market segment such as womenswear. Pakistan's share in total export value of woven women garments is only 0.5%. One threatening fact is that Pakistani exporters are gradually losing out their market share of quantities exported in all major markets. Volume of woven women apparel has declined by 7% during 1993-97.

Figure 7.9.1: Pakistan Exports of Women Wear Woven (Value \$ millions, Quantity million pieces)



USA is the largest importing country for woven womenwear from Pakistan. In 1997 Pakistan's exports to USA in this category were US \$ 61 million which is 45% of the total woven women garment exports from Pakistan. Despite the fact that the USA is the principal buyer of woven women apparel from Pakistan but Pakistan's share in the total American imports of woven women garments is only 0.5%. Total imports of woven women wear into the USA were \$ 11 billion in 1997. This exposes the manufacturers and exporters in Pakistan to the risk of the USA, switching over to another supplier for even a small amount. However at the same time it also highlights the extent of opportunities that exist only in one market. The product mix of Pakistan's apparel exports has been heavily skewed in favour of menswear. However, in order to develop the apparel sector in Pakistan, it is important that women apparel sector be developed.

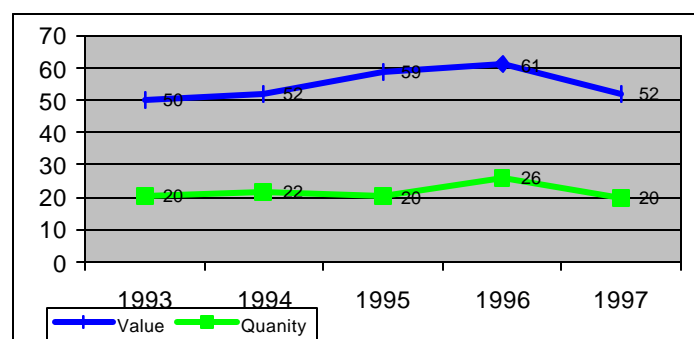
Table 7.9.1: Export Markets for Pakistan Woven WomenWear

Exports of Pakistan Womenwear Woven-1997				
	\$ Million	Number of units mln	Share in Value	Share in Qty
WORLD	136	43,625		
USA	61	17,850	45%	41%
GERMANY	15	5,178	11%	12%
UNTD KINGDOM	11	4,394	8%	10%
NETHERLANDS	14	4,570	10%	10%
CANADA	7	2,090	5%	5%
FRANCE	6	2,172	4%	5%
SAUDI ARABIA	4	1,537	3%	4%
UNTD ARAB EM	1	443	1%	1%
BELGIUM-LUX	4	1,444	3%	3%
ITALY	1	414	1%	1%
Others	12	3533	9%	8%

The European Union is the second largest market of Pakistani woven womenwear. The value of total exports directed towards the EU during 1997 was \$51 million, which is 37% of total exports in the segment. In E.U, Germany, U.K., France & Netherlands are the major buyers of Pakistani woven womenwear. Japan and Hong Kong together imported \$7 billion worth of women woven garments in 1997, however Pakistani exporters have completely overlooked these non-quota countries.

7.9.5.3.2. Exports of Knitted WomenWear

Women knit garments is a smaller market than woven women apparel, with a total world imports of \$10.8 billion in 1997. Exports of knit women garments from Pakistan in 1997 were \$52 million, which is only 0.63% of total global trade value in the sector. Quantities exported from Pakistan in the category has not shown any growth in five years while export values have marginally increased by less than 1% annually. Latest figures however show a marginal rise in value with an exports of around \$90 million in 1999.

Figure 7.9.1: Pakistan Exports of WomenWear Knit (Value \$ million, quantity million pieces)

USA is the largest market for knitted Womenwear exports from Pakistan. Total size of the USA imports of knitted women wear was \$ 2.8 billion in 1997, in which Pakistan's share was \$24million only. Major markets of knitted women garments are the same as for woven women segment. European Union combined together imported knit women-wear of \$20 million from Pakistan. Japan and Hong Kong, with total imports of US \$ 2.1 billion in the segment, are again not being targeted by the Pakistani suppliers.

Table 7.9.1: Pakistan Export Markets of Women Wear Knit

Exports of Pakistan Womenwear-Knit-1997				
	Value-mln	Qty-000	Share in Value	Share in Qty
WORLD	52	19,644		
USA	24	7,687	46%	39%
GERMANY	5	2,177	10%	11%
UNTD KINGDOM	7	3,131	13%	16%
NETHERLANDS	4	2,277	8%	12%
FRANCE	2	908	4%	5%
CANADA	3	867	6%	4%
BELGIUM-LUX	1	309	2%	2%
SWEDEN	1	258	2%	1%
ITALY	0	170	0%	1%
UNTD ARAB EM	1	416	2%	2%
Others	4	1,444	8%	7%

7.9.5.4. Regional Competition

The export performance of all the major Asian exporters in the woven womenwear segment has been better than that of Pakistan. Out of the total world imports of \$36 billion in 1997, seven major Asian exporters had a share of \$6.4 billion of exports in this segment.

Table 7.9.1: Asian Exports of Women Wear Woven (\$ million)

	1993	1994	1995	1996	1997
China	2,127	2,806	2,763	4,795	3,028
India	445	631	719	1,495	1,632
Korea	412	413	370	593	572
Turkey	230	256	470	977	412
Indonesia	393	285	331	755	289
Bangladesh	192	192	240	236	260
Pakistan	164	152	139	198	135

China is the largest exporter of both knitted and woven women garments with total exports of \$3.8 billion in 1997. India is the second major exporter of women wear with total exports of \$ 1.7 billion in the category. The growth rate of Indian exports in woven women apparel has been high during the period 1993-1997, as exports rose by 267%.

Table 7.9.2: Asian Exports of Knitted Women Wear

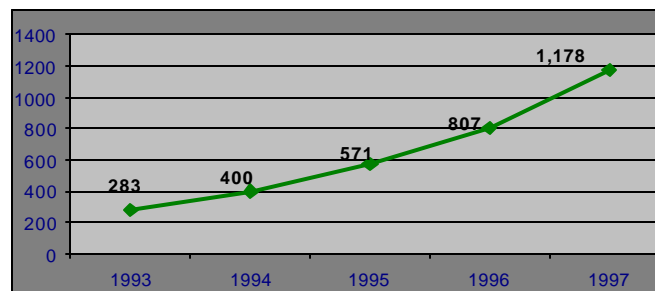
	Women Clothing Knit (\$ Mln)				
	1993	1994	1995	1996	1997
China	526	668	565	756	1,404
Turkey	668	573	780	695	695
Korea	466	610	604	511	580
India	138	137	133	154	151
Indonesia	225	157	163	169	119
Pakistan	50	52	59	61	52
Bangladesh	31	33	42	38	44

7.9.5.5. The USA Market

USA is the largest market for woven women wear with total imports of \$11.3 billion. China is the largest exporter of both knitted and woven women wear to USA and holds a share of 31% in woven segment and another 7% in knit women apparel.

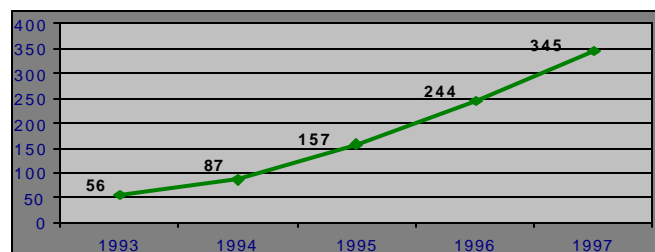
One major emerging threat to the exporters to the USA in women wears, is Mexico which is rapidly penetrating the USA market. Mexican Exports of woven women wear grew by 316% in four years during 1993-1997.

Figure 7.9.1: USA Imports of Woven Women Wear From Mexico (\$ millions)



In knitted garments, Mexico has been a late entrant. But since 1993 its exports to USA in knitted women garments has risen by 516%. Mexico now is the largest exporter of knit women wear to the USA market with a share of 12%. The increased penetration of Mexico to the USA is a major cause of concern for other exporters of knitted garments to USA. USA is the largest importer of Pakistan's knitted women garments. This again highlights the role being played by the economic blocks in changing the global textile trade flows.

Figure 7.9.2: USA Imports of Knitted Women Wear From Mexico (\$ millions)



7.9.5.6. Product Mix & Unit Price Realisation

7.9.5.6.1. WomenWear Woven

Womenwear category consists of a number of sub categories at five-digit level. The following table lists all major categories included in women wear. Pakistan has surprisingly a much better balanced product mix in woven women garments as compared to the knitted women garments. There are five categories with share of greater than 10%. However women woven suits is one category with a share of 29% in total exports of woven womenwear from Pakistan. Women woven Jackets, Skirts, Trousers and blouses are some of the important categories where there is room for more improvement.

Table 7.9.1: Comparative Product Mix of Women wear Woven

SITC	Description	Pakistan	Bangladesh	India	China	Indonesia	Korea	Turkey
84221	Suits	29%	N/A	1%	1%	10%	8%	2%
84222	Ensembles	0%	4%	2%	11%	1%	1%	5%
84230	Jackets	2%	0%	4%	21%	2%	21%	11%
84240	Dresses	16%	19%	27%	8%	28%	12%	12%
84250	Skirts	3%	7%	12%	9%	6%	13%	8%
84260	Trousers, bib & brace overall, breaches & Shorts	11%	4%	8%	22%	25%	17%	34%
84270	Blouses, Shirts & Shirt Blouses	14%	25%	44%	20%	26%	25%	22%
84589	Articles of Apparel(Bathrobes & Dressing Gowns	24%	40%	2%	7%	2%	2%	6%

When unit price realisations are compared, average unit values of Pakistani exports is substantially lower While China is getting \$15 for same category of producer, Pakistani woven women suits fetch only \$2. Therefore Pakistani manufacturers and exporters will have to concentrate on increasing the volumes achieving higher value realisations of women suits and Jackets.

Table 7.9.2: Comparative Unit Price Realisation of Women Wear Woven \$/piece

SITC	Description	Pakistan	Bangladesh	India	China
84222	Ensembles	2	6	7	9
84230	Jackets	4	6	10	6
84250	Skirts	3	4	5	4
84260	Trousers, bib & brace overall, breaches & Shorts	3	4	3	2
84270	Blouses, Shirts & Shirt Blouses	3	3	4	4
84589	Articles of Apparel(Bathrobes & Dressing Gowns	5	5	na	5
	Weighted Average Unit Price	3.21	4	5	5

7.9.5.6.2. Knitted Women Wear

The knitted womenwear exports from Pakistan are concentrated only in two major product categories that is women blouses and knit suits. Bangladesh, China and Turkey have women trousers as their major export products. The product Mix of other Asian competitors is dominated by high value products including overcoats, knit jackets and trousers for women, which enables them to fetch better unit prices in the international markets.

Table 7.9.1: Comparative Product Mix of Women Wear Knit

Description	Pakistan	Bangladesh	India	China	Indonesia	Korea	Turkey
Over Coats, Car Coats Wind Jackets	0%	5%	2%	3%	3%	1%	1%
Suits	27%	4%	2%	0%	22%	2%	2%
Ensembles	0%	0%	6%	25%	3%	3%	7%
Jackets	1%	14%	3%	20%	1%	3%	3%
Dresses	8%	4%	18%	7%	14%	6%	10%
Skirts & Divided Skirts	0%	1%	4%	5%	3%	3%	5%
Trousers, bib & brace overall, breeches & Shorts	9%	52%	9%	30%	11%	13%	38%
Blouses, Shirts & Shirt blouses	52%	19%	54%	7%	38%	68%	25%
Night Clothing	2%	2%	1%	3%	5%	1%	8%

Looking at the unit value realisations, unit prices are higher in categories, which are non-traditional in export items from Pakistan. Women over coats that have no share in export product mix from Pakistan are among most value-added item on the list. Similarly Jackets account for only 1% in total exports from Pakistan with a unit value realisation of \$3 from Pakistan sells as high as \$8 in case of Indians products. Blouses and shorts, which constitute 52% of total export value form Pakistan, are among the lowest value added product. The result is that weighted average unit price of Pakistan in the exports of knit women wear is 60cents lower than its nearest competitor i.e. China, and \$ 1.6 lower than Bangladesh. Thus our exporters are completely overlooking higher value added products in this category.

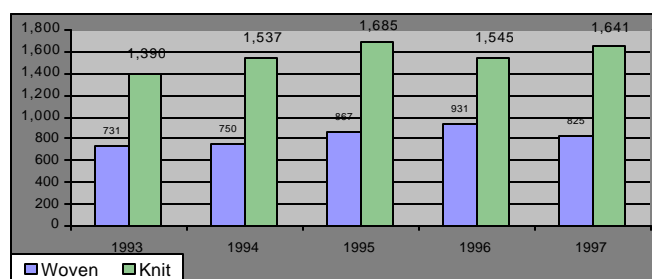
Table 7.9.2: Unit Price Realization women wear Knit \$/pc

SITC	Description	Pakistan	Bangladesh	India	China
84422	Ensembles	3	0	3	3
84423	Jackets	3	7	8	3
84424	Dresses	3	4	6	4
84425	Skirts & Divided Skirts	3	5	4	2
84426	Trousers, bib & brace overall, breeches & Shorts	2	3	3	2
84470	Blouses, Shirts & Shirt blouses	2	3	3	3
84489	Night Clothing	6	1	3	3
	Weighted Average Unit Price	2.18	3.77	3.95	2.78

7.9.6. Babies-wear

Babywear is a relatively smaller sector as compared to men and women apparel segments. The global market of knit and woven babywear is worth US \$ 3.5 billion, with a market share of 2.3% in the total apparel trade. The world imports in babywear have shown a cumulative annual growth rate of 7% during 1993-1997. Growth in the world imports of babies' wear has been greater in knit segment as compared to woven babywear. The overall split of knit and woven in the segment is 70% and 30% respectively.

Figure 7.9.1: Global Exports of Babies Wear



7.9.6.1. Global Market of Babies-Wear

USA is the largest market for babies woven garments with imports of \$ 329 million in 1997, having a market share of 31%. European Union has an import value higher than America, with total imports in the category amounting to \$433 million in 1997. France is the second largest single market within the EU, with a 34% share in the total imports of the region in woven babywear. Although the market size in this segment is limited, however, there are small niches that can and should be explored in order to maximise our product mix. Saudi Arabia is among major buyers of babywear woven and thus offers an opportunity to Pakistani exporters to penetrate this market.

Table 7.9.1: World Imports of Babies Wear Woven \$

Babywear Woven Imports-1997 '000		
	Value	Share %
World	1,059,915	
USA	329,339	31%
FRANCE	146,162	14%
HONG KONG	109,285	10%
UNTD KINGDOM	97,448	9%
GERMANY	74,245	7%
ITALY	55,887	5%
SAUDI ARABIA	*45,253	
NETHERLANDS	31,560	3%
BELGIUM	27,586	3%
SPAIN	*29,548	
Others	188,403	18%
* 1996 values		

Table 7.9.2: World Imports of Babies Wear Knit \$

Imports of Babywear Knit-1997		
	Value 000	Share %
Total World	2,412,049	
USA	903,727	37%
FRANCE	281,557	12%
GERMANY	205,244	9%
HONG KONG	248,009	10%
UNTD KINGDOM	149,972	6%
NETHERLANDS	69,329	3%
ITALY	81,364	3%
BELGIUM	63,269	3%
JAPAN	53,584	2%
SWITZ.LIECHT	36,902	2%
Others	319,092	13%

Knitted baby garments is a much larger market than woven garments for babies. USA is the largest importer with total imports of \$904 million in 1997, a share of 37%. European Union is the second largest importing block after USA. Total imports of EU were \$850 million in 1997. France is the largest importer of this product within the EU regions. With an import of US \$ 281 million it enjoys a major share of 33% in the total imports of EU. Hong Kong and Japan are two other important markets. Though Hong Kong is heavily engaged in re-exports it can still play a major role as an important destination for Pakistani exports.

7.9.6.2. Competitive Environment

Competition in babywear market is tough with numerous players having small market shares. Top thirteen exporters hold a total market share of 75%, while the rest 25% share is divided among many small players.

Even top exporters except for China and Italy hold, shares ranging from 2-7%. This shows that the market is highly fragmented. China is the largest shareholder in this segment with a market share of 23% and exports of \$192million in 1997. Asian countries are very active in this particular segment. Seven Asian countries with a total export value of \$370million cater to 45% of total world demand of woven babywear.

Table 7.9.1: Exporters of BabyWear (US \$)

Exports of Babywear woven-1997		
	Value '000	Share %
Total	824,679	
CHINA	192,661	23%
ITALY	93,969	11%
PHILIPPINES	61,608	7%
FRANCE	56,978	7%
THAILAND	44,496	5%
HONG KONG	35,781	4%
UNTD KINGDOM	38,575	5%
GERMANY	19,030	2%
USA	26,828	3%
INDONESIA	20,083	2%
NETHERLANDS	15,611	2%
PAKISTAN	16,361	2%
INDIA EX SIK	*27,412	0%
Others	202,698	25%

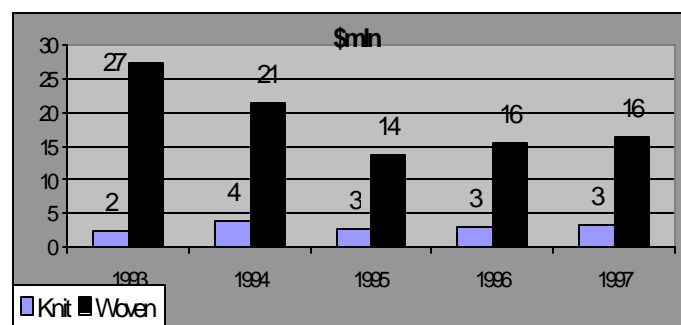
Table 7.9.2: Exporters of BabyWear (US \$)

Exports of Babywear knit-1997		
	Value '000	Share
World	1,641,377	
CHINA	212,800	13%
THAILAND	205,508	13%
PORTUGAL	132,839	8%
FRANCE	115,221	7%
HONG KONG	109,745	7%
USA	136,361	8%
PHILIPPINES	65,965	4%
ITALY	86,643	5%
TURKEY	73,556	4%
KOREA REP.	*71,703	0%
SINGAPORE	58,690	4%
Others	351,639	27%
* 1996 Values		

In case of knit babywear, which has a greater market share than the woven segment in the global babywear market, there exists a greater degree of fragmentation. China is the largest market with a share of 13% in total world imports in the category. Asia holds a share of around 50% in total world exports with exports of \$800million in 1997. Thailand has emerged as a major Asian exporter of babywear. Thailand's exports in knit babies wear were \$205million in knit garments and another \$45 million in woven segment.

7.9.6.3. Exports of Pakistan

The Pakistani apparel exporters/manufacturers have kept their focus on producing only traditional products. Product development is considered to be a high-risk activity in the business circles. It also holds true for the babywear segment, which is considered a complex product with little export opportunities. Despite the fact that the babywear segment is limited to US \$ 3.5 billion worth of trade, the export earnings from this segment can be enhanced through the development and marketing of high value added products.

Figure 7.9.1: Pakistan Exports of Babies Wear

Pakistan exported a total of \$16million worth of woven babywear in 1997, a market share of 2% in the world exports of this segment. Exports in this category have been continuously declining during 1993-

1997. From a total exports of \$27million in 1993 the exports have showed a 41% decrease, i.e., only \$16million 1997. A cumulative annual growth rate of negative 12% in a market that is growing by @ 3% p.a. is not a very healthy sign for a county in which textiles constitute 65% of exports.

Knitted Babywear is a larger market than woven segment. However again the category is not very popular with exporters from Pakistan and in 1997 total export value from Pakistan was as low as \$3 million.

Figure 7.9.2: Pakistan Exports of Babies Wear

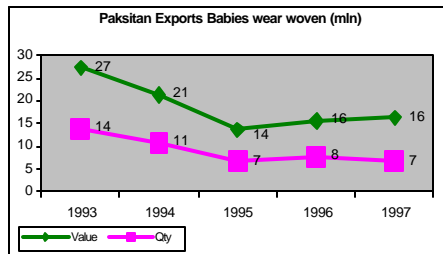
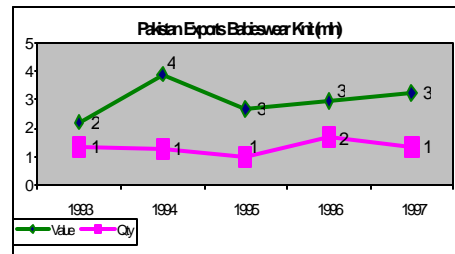


Figure 7.9.3: Pakistan Exports of Babies Wear



7.9.6.4. Markets of Pakistan BabyWear

Major export partners of Pakistan in Babywear have been EU countries. Germany is the largest importer of babies' garments from Pakistan with a share of 31% in woven segment and 21% in knit babywear. USA is the second largest market for Pakistan exports in this category. As mentioned earlier that, Saudi Arabia and U.A.E are large import markets of babywear, here Pakistani exporters can increase their trade with these two countries.

Figure 7.9.1: Export Markets for Woven Babies Wear

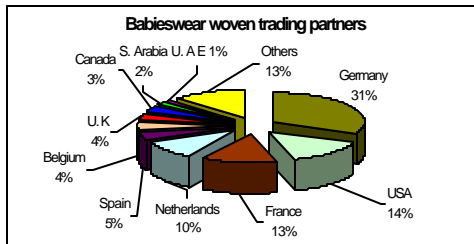
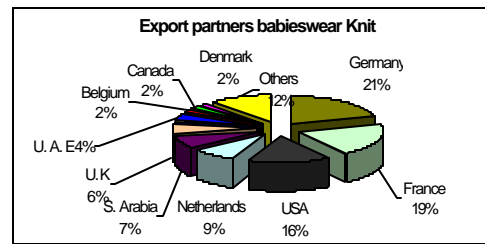


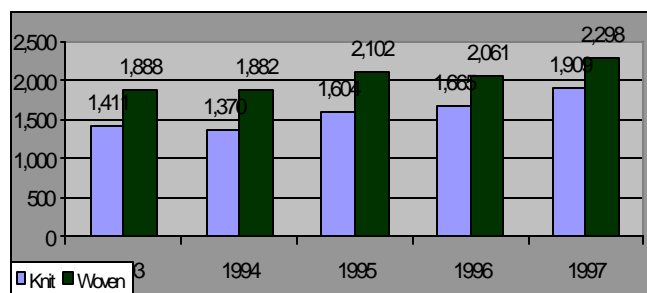
Figure 7.9.2: Export Markets for Woven Babies Wear



7.9.7. Sportswear

Sportswear is one category, which holds a high growth potential for exporters. In recent years this category has shown healthy growth trends with a simultaneous increase in unit price realisation. Sportswear category comprises of ski suits, swim suits and a diverse range of other sports gear manufactured from high performance fabrics. Overall cumulative growth rates in the value of imports of sportswear were 3% for woven garments and 7% for knit sportswear. Total world imports in sportswear were \$4.1 billion in 1997, making it one of the major categories besides men's and women clothing. Sportswear is one category where total trade is balanced between knit and woven garments, the split is 45% and 55% respectively.

Figure 7.9.1: World Exports of Knit and Woven Sports Wear



7.9.7.1. Product Segments of Sports Wear

Sportswear is a specialised field with high quality requirements. Most of the fabrics used in the production of sportswear are manufactured from a wide range of synthetic and artificial filaments and fibres.

In woven sports wear the largest category is women outerwear including skisuits. This single category accounts for 80% of total value imported in woven sportswear. Swimwear both for men and women is an other category which has high growth rates.

In knit sportswear tracksuits is the largest subcategory with a share of 53% in total value traded in 1997. Females' swimwear is another major category with a share of 41% in total value but a much higher growth rate i.e. 6% p.a.

Table 7.9.1: Share in World Exports

Sportswear woven-1997			
SITC	Description.	CAGR	Share in Value
84219	Women Outerwear	2.48%	79.62%
84581	Ski suits men	-	9.66%
		1.23%	
84561	Swimwear men & boy	5.01%	8.53%
84563	Swimwear women & girl	2.03%	2.19%

Table 7.9.2: Share in World Exports

Sportswear knit-1997			
SITC	Description.	CAGR	Share in value
84591	Track Suits	5.82%	52.76%
84564	Swimwear Females	9.97%	41.17%
84562	Swimwear Male	-	5.33%
		0.60%	
84592	Ski Suits	-	0.70%
		4.03%	

7.9.7.2. Woven Sports Wear- Markets

USA is the largest buyer of woven sportswear with a market share of 35%. It imported US \$ 1.2 billion worth of woven sportswear during 1997. Within this category, women outerwear, including skisuits constituted 85%. Not only the women outerwear dominates the American imports of sportswear, it also has a 37% share in the global imports of women outerwear.

Table 7.9.1: Markets of Sports Wear

World imports Sports wear woven-1997			
	Value 000	% Share	CAGR
Total	3,475,521		2%
USA	1,207,284	35%	4%
GERMANY	625,528	18%	0%
JAPAN	255,016	7%	-2%
FRANCE	206,768	6%	3%
NETHERLANDS	201,492	6%	10%
HONG KONG	144,367	4%	2%
UNTD KINGDOM	152,621	4%	6%
ITALY	117,904	3%	9%
CANADA	96,547	3%	2%
SWITZ.LIECHT	76,541	2%	-4%
Others	391,453	11%	

7.9.7.2.1. Women Outerwear

Women outerwear including skisuits is the largest category in woven sports wear with a share of 79% in total world imports. Total value traded in the category was \$2.7billion in 1997. USA is the largest buyer of woven women outerwear with imports of \$1.0 billion in 1997 and a share of 37%. Germany is the second largest buyer of women outerwear and has a market share of 20% and import values of \$572million.

7.9.7.2.2. Ski Suits-male

Male Skisuits is the second largest category of woven sportswear with total world imports of \$336 million in 1997. Japan is traditionally the largest buyer in this particular category with a total share of 14% in world imports of men's ski suits, followed by Germany, Netherlands and Italy. Imports into Netherlands grew tremendously in 1997, and it has thus emerged as a major buyer of ski suits and male swimwear. However the sustainability of these levels of imports is not certain. Brazil however is a truly expanding market with growth rates higher than 100% p.a. in certain categories. Swimwear both male and female has high growth

potential in markets like Brazil, Finland, Ireland, Turkey and Czech Republic. These markets illustrate small global shares with high growth rates.

7.9.7.2.3. Swimwear

Male swimwear is the third largest category of woven sportswear with total world imports of \$297million in 1997. America is the largest importer of male swimwear with a share of 50%. Male swimwear constitutes 12% of total American sportswear imports. Hong Kong Canada and Japan are other major markets for male's swimwear. Total value of female swimwear imports has been \$76million in 1997. France is the largest buyer of woven female swimwear with a share of 12% in total world imports followed by United Kingdom, USA & Germany.

7.9.7.3. Knitted Sports Wear

The market of knitted sportswear is around US \$ 2.3 billion. The market however is fragmented with many buyers importing small quantities and smaller shares in world imports. This segment of sportswear has increased by almost 35% from 1993 to 1997. The exports were US \$ 1.4 billion, which rose to US\$ 1.9 billion in the year 1997. Germany is the largest buyer of knit sports wear with total imports of \$288 million in 1997 earning a share of 14% in total world imports. Following Germany closely is USA with total imports of \$278 million. However USA is a more attractive market because of relatively higher growth rates. The value of imports in USA has increased by 14% p.a. since 1993, the growth over the same period in import quantities was only 6%.

7.9.7.3.1. Track Suits

Tracksuit is the largest category in knit sportswear with total imports of \$1.0billion and a share of 52%. Germany is the largest importer of knit tracksuits with a market share of 13% and import value of \$146 million in 1997. Track suits and female swimwear comprises 91% of total imports of Germany in knitted sportswear. France, Japan and Italy are other major markets for knit track suits.

7.9.7.3.2. Female swimwear

Female swimwear is the second largest category in knit sportswear with a market share of 41% in total world imports and an import value of \$845million. USA is the largest importer in this category with total imports of \$231 million and a share of 27%. Germany is the second largest buyer in this category with a share of 13% and imports of \$117million. Other major markets in the category are Hong Kong, France, Netherlands and U.K. Female swimwear is also the largest item on USA import list, constituting 83% of its total imports of knitted sportswear in 1997. The American market of female swimwear offers a great deal of growth potential for exporter in this segment. The market has grown at a tremendous rate of 20% per annum, from 1993-97. The growth in the market was driven by both the increased import volume as well as the value. Other important importers of female swimwear especially in respect to high growth rates of quantities imported are Tunisia, Thailand Columbia, Mexico Mauritius, Brazil, Peru Ecuador and Honduras.

7.9.7.3.3. Ski Suits

Ski suits is a very small category in total knit sportswear with imports of less than 1%. Major buyers are Italy and France. Tracksuits are the largest category in sportswear with a total value of imports around \$1.1billion in 1997 or 52% of total import value of knit sportswear. Germany is the largest buyer of knit tracksuits with \$146million worth of imports in 1997, followed by Italy, France, Hong Kong, and U.K. Italy specifically is a high growth importing country of knit tracksuits. Imports rates both in quantity and value have been above 30% during 1993-1997. Countries in South, central and north America, like Uruguay, Chile and Brazil have also shown high growth rates in quantities imported. The reason again can be attributed to re-export. These countries can also be attracting offloading hubs for exports to USA.

Belgium, Greece, Cyprus & Romania are some of the non-American countries with high quantity growth rates for imports of knit tracksuits.

7.9.7.4. Competitive Environment

7.9.7.4.1. Woven Sportswear

China is the largest exporter of woven sportswear. With total exports of \$677million in 1997, China holds a market share of 30% in this category. The performance of China is again commendable because the value of its exports in the woven category is increasing at an annual growth rate of 7% in a market that is growing at 5% p.a. However the exported quantities in the same period have grown at a rate of 5% indicating that China is gradually increasing the unit value of its products. China's largest item on the export list of woven sports wear is outerwear including skisuits for women and constitutes 75% of total exports in the category. China's market share in women outerwear is 30%. Ski suits for men are the second largest export sportswear item from China. In this category China holds a share of 44% in total global export market. Germany is the second largest exporter of woven sportswear, however, its exports are mainly limited to one item; women outerwear, which accounts for 95% of total exports from Germany. In 1997 Germany exported \$202million worth of women outerwear as compared to China's exports of \$514million in the same year.

Table 7.9.1: Exporters of Woven sportswear

World Exports Sportswear woven			
	Value 000	CAGR	Share
Total	2,298,145	5.04%	
CHINA	677,669	7.90%	29.49%
GERMANY	212,177	8.59%	9.23%
NETHERLANDS	395,042	46.80%	17.19%
INDONESIA	134,093	-2.93%	5.83%
ITALY	121,504	3.37%	5.29%
HONG KONG	104,700	-1.30%	4.56%
KOREA REP.	*87,375		0.00%
POLAND	61,214	2.22%	2.66%
BANGLADESH	*73,169		0.00%
FRANCE	56,254	2.54%	2.45%
Others	535,492	2.17%	23.30%
* 1996 values			

Netherlands had 1997 as a very good export year when its exports dramatically rose, making it the second largest exporter of woven in that particular year. Traditionally Netherlands has been a major exporter of Ski suits for men, but in 1997 its exports in male swimwear jumped up to unprecedented level. It has 71% of total export value in this particular category. Bangladesh did not report its exports in 1997, but it has been a major exporter in the category exporting women outerwear and male swimwear. Indonesia is another major exporter in the category and holds a share of 8% in total world exports.

7.9.7.4.2. Women outerwear.

China as discussed earlier is the largest exporter of female swimwear with a share of 34% in total world exports. Germany, Indonesia and Hong Kong are other major exporters in the category. Denmark and Belgium have recently emerged as exporters of high value added women wear, though their share of total market is comparatively small.

7.9.7.4.3. Female swimwear

On the basis of five year cumulative export value Italy has been the largest exporter of female swimwear, followed by Tunisia and Mexico. However rapid growth rates in the exports of certain countries have now made them a bigger exporter than Italy both in quantity and value terms. Mexico has shown rapid growth in this category with export values growing at 153% during 1993-1997 and quantities exported at 128% during the same period of time. This made Mexico the largest exporter of female swimwear in 1997. Turkey and Tunisia, are two other countries with high growth rates in the category. Both of these exporters have shown volume growth of more than 30% in this category, while export value growth rates have been more than 40% p.a.

7.9.7.4.4. Male Swimwear

Netherlands had taken away a major share of male swimwear in 1997, through supplying 71% of total world exports. China, Thailand, Indonesia and Italy are other major exporters of male swimwear. Macao and United Kingdom are emerging exporters with high growth rates.

7.9.7.4.5. Ski Suits

Total world exports of **Ski suits** in 1997 was \$322million. China is the largest exporter of Skisuits with a share of 44%. Exports from China in this particular category have been growing at a healthy rate of nearly 20% p.a. both in the terms of value and quantity. (17% in value and 16% in quantity). Italy, Hong Kong, and Netherlands are other major exporters of woven Ski Suits. Tunisia, Philippines, U.K. Sweden and Turkey are among emerging markets but operating in highly value added segments of the product.

7.9.7.5. Knitted Sportswear

Total exports in knitted sportswear were around \$2billion in 1997. China is the largest exporter of knitted sportswear, with a share of 14% in total world exports in 1997 and an export value of \$263million. Growth rates of Chinese exports in the category have also been very impressive. Knitted tracksuits are the largest category exported from China. Track suits alone constitutes 80% (\$211 million) of total Chinese exports in Knit sportswear. Female swimwear is the second largest item on the export list of China with total exports of \$39million. However Chinese exports in the category are growing faster than any other category, export values has grown by 32% p.a. during 1993-97. The quantities exported in this period grew by 20% p.a. Italy is the second largest exporter of Knit sportswear with total exports of \$161 million in 1997. Tracksuit is also the largest export item on the list of knit sportswear exports from Italy. In 1997 Italy exported tracksuits worth \$87million in 1997. Other major export item from Italy is female swimwear with exports of \$56million and a market share of 10% share.

Among Asian countries Turkey is the largest exporter with exports of \$70million in 1997. Knitted Tracksuits account for 80% of Turkey's total exports in sportswear. Indonesia is the second largest Asian exporter with total exports of \$57 million in the category. Tracksuit also is the largest item on export list of Indonesia, comprising 84% of total knit sportswear exports from Indonesia. Other Asian exporters like India, Bangladesh and South Korea are small players in the segment with combined exports of less than \$20million.

Table 7.9.1: Global Exports of Sports Wear Knit

World Exports Sportswear-Knit			
	1997 '000	Share	CAGR
Total	1,909,007		8%
CHINA	263,586	14%	14%
ITALY	161,129	8%	7%
NETHERLANDS	337,994	18%	72%
GERMANY	78,274	4%	2%
FRANCE	79,274	4%	3%
PHILIPPINES	68,154	4%	12%
HONG KONG	47,472	2%	-13%
TURKEY	70,764	4%	8%
ISRAEL	37,082	2%	-12%
INDONESIA	57,084	3%	5%
Others	708,194	37%	

7.9.7.6. Pakistan Exports

Sportswear is a growing category with high unit values. Pakistani manufacturers and exporters have not yet been able to exploit the potential that sportswear offers. Out of total global exports of more than \$4 billion in 1997, Pakistan exports in the category were only \$22.4 million. Except for a small \$0.4 million all of the exports were in knit sportswear. In woven sportswear, Pakistan's export product mix is very narrow with little product diversification. Product range of sportswear include only two items i.e. women outer and male swimwear. Germany is the largest buyer of woven sportswear from Pakistan followed by USA, Italy and Canada. Sportswear market demands continuous product innovation and performance improvement. Lack of the concept of product development in garment industry of Pakistan has therefore resulted in declining unit values of sportswear.

Figure 7.9.1: Pakistan's Export of Knit Sports Wear

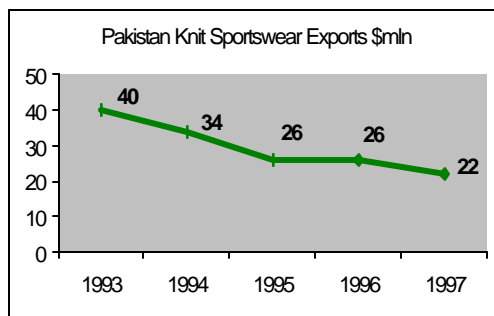
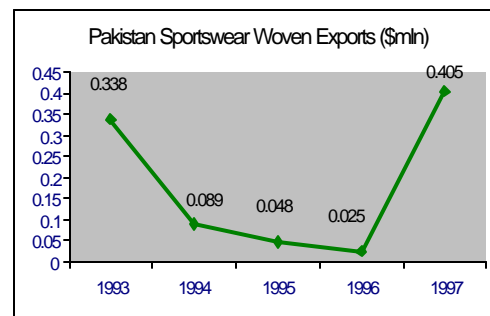


Figure 7.9.2: Pakistan's Exports of Woven Sports Wear



In knit sportswear Pakistan has higher exporters in most of its Asian competitors. However for exports from Pakistan has shown continuous decline during 1993-1997. Exports in the category have dropped by 45% in five years, from \$40 million in 1993 to \$22 million in 1997. Knitted sportswear exports from Pakistan have been limited to just one category i.e. knitted tracksuits specially made of synthetic material. Tracksuits constitutes more than 99% of exports from Pakistan in the category.

USA is the largest export partner of Pakistan in this category with a share of 50%, while Germany is the second largest importer of sportswear from Pakistan. Italy and France in Europe and countries in south and

Central America are other major markets for sportswear that can be explored in order to diversify the current market mix.

Figure 7.9.3: Markets for Pakistan's Sportswear

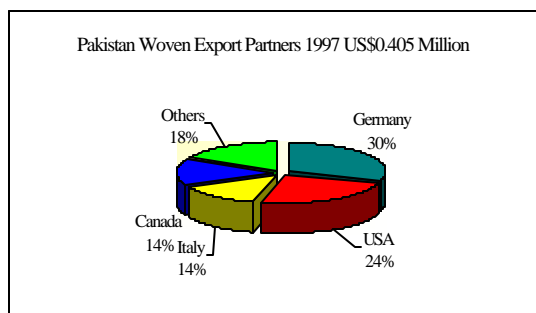
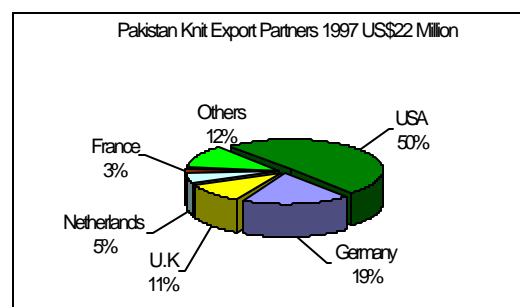


Figure 7.9.4: Markets for Pakistan's Sportswear



7.9.8. T Shirts & Pull overs

This grouping consists of T-shirts, cardigans, jerseys, pullovers and kaftan items and other items not covered in menswear or womenwear. This is the third largest apparel category in terms of global trade values, after men and women woven garments. Total world imports in the category were \$33.8 billion in 1997. Within the category, there are two main products; Jersey and pullover is the larger product group with a share of 72% and the second is T-shirts with a share of 28%.

USA is the largest importing country of T-shirts and pullovers with a share of 29%. In 1997 the USA imports in the category were \$9.6. Jersey cardigans and pullovers constitute 78% of the total American imports in the category with a total value of \$7.4billion. USA is a rapidly growing market for jerseys, cardigans and t-shirts with annual growth rates of 10% in value terms and 7% in import quantities.

Table 7.9.1: Imports of T-shirts and Pullovers

World Imports T Shirts & Pullovers			
	Value '000	Share	CAGR
Total	33,877,632		7.38%
USA	9,650,622	28.49%	13.67%
GERMANY	4,571,388	13.49%	0.32%
JAPAN	3,869,621	11.42%	7.53%
HONG KONG	3,218,149	9.50%	7.24%
FRANCE	2,221,726	6.56%	4.99%
UNTD KINGDOM	2,326,991	6.87%	12.28%
NETHERLANDS	1,192,181	3.52%	6.20%
BELGIUM	857,884	2.53%	8.30%
SWITZ.LIECHT	659,935	1.95%	1.19%
ITALY	869,903	2.57%	14.07%
Others	4,439,232	13.10%	

Germany is the second largest importer in this category with imports of \$4.5 billion in 1997. Jerseys and Pullovers are major export products for the German market. German market has however been stagnant during 1993-97 and has grown by only 1% during the period. Japan is the third largest importer of T-shirts and pull over with total imports of \$3.8 billion in 1997.

USA is the largest importer of jerseys, cardigans and pullovers with a share of 30% in total world imports. While Germany has been the largest importer of T-shirts during 1993-97, Kenya, Tunisia, Zimbabwe and Algeria and other African countries are growing markets for T-shirts and should be developed accordingly.

7.9.8.1. Competitive Environment

China is the largest exporter of T-shirts and Pullovers with total exports of \$5 billion in 1997. Whereas the total world export values are growing at 7% per annum. Export values from China in the category are growing at a growth rate of 14%. Meaning thereby that Chinese exporters have started moving towards high value added segment. Italy is the second largest exporter of T-shirts and Pullovers. Jerseys and cardigans constitute 88% of total quantities exported from Italy. Italy, however is the seller of high quality designer wear. Turkey is another major exporter in the category with exports of \$2 billion in 1997.

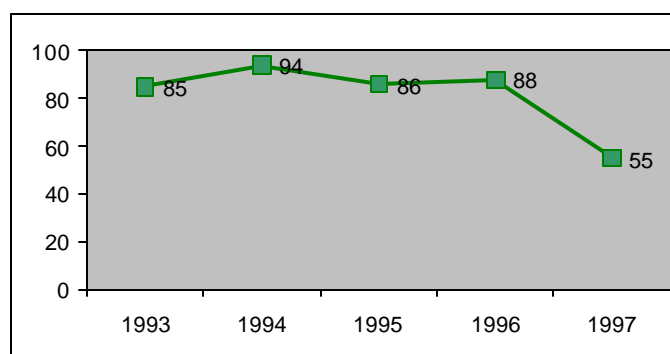
Table 1.1.1: Competitors in World Exports of T-shirts and Pullovers

World Exports T-shirts & Pullovers-1997			
	Value '000	Share	CAGR
Total	25,432,654		7%
CHINA	4,974,833	20%	14%
ITALY	3,236,126	13%	2%
HONG KONG	2,232,161	9%	1%
TURKEY	1,921,778	8%	16%
USA	1,519,985	6%	20%
PORTUGAL	985,702	4%	3%
GERMANY	1,022,420	4%	7%
UNTIED KINGDOM	1,027,675	4%	14%
KOREA REP.	*674,563	-	-
FRANCE	714,913	3%	6%
Others	7,797,061	31%	
*1996 Values			

7.9.8.2. Pakistan Exports

Exports of T-shirts, Cardigans, jerseys and pullovers from Pakistan were \$55 million in 1997, which gives Pakistan a share of 1.7% in total world exports. One of the reasons for smaller Pakistan exports in the category is that a large portion of t-shirts from Pakistan gets reported under menswear. It is evident that Pakistani manufacturers and exporters have totally overlooked this category.

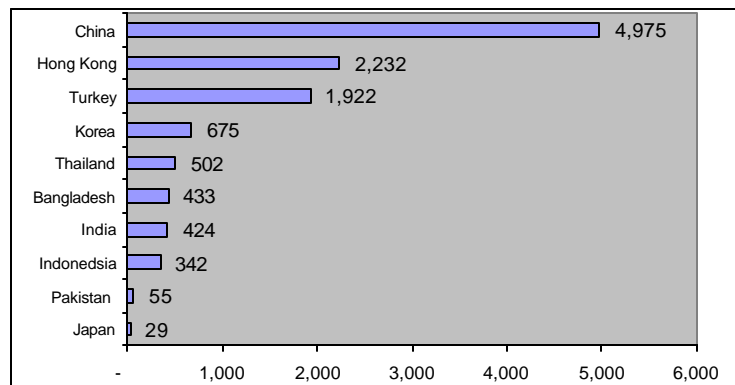
Figure 1.1.1: Pakistan Exports of T-shirts and Pullovers US \$ millions



7.9.8.3. Asian Competition

China is the largest Asian exporter of T-shirts and pullovers with total exports of \$4.9 billion in 1997. Hong Kong is the second largest exporter with total exports of \$2.2 billion followed closely by Turkey at exports of \$1.9 billion. Korea, Thailand, Bangladesh India and Indonesia are other major Asian exporters in the category. The only country in the region that has exports lower than Pakistan is Japan at \$29 million.

Figure 1.1.1: T-Shirts and Pullover Exports By Asia (US \$ million)

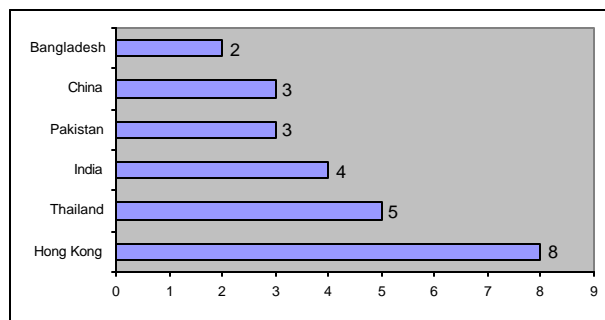


7.9.8.4. Comparison of Unit Values

If we compare export unit values of major Asian countries, Hong Kong emerges as the largest value added exporter of all, with unit values comparable to those of Turkey and Portugal in the high value added exporters list.

India and Thailand are other two Asian exporters with unit value realisation of more than \$5 a piece. China is operating in the medium price range segment in this particular category with average export price of jersey equal to \$3.75. Pakistan has done well in improving its unit value realisation from \$2.1 in 1993 to \$3 in 1997.

Figure 1.1.1: Asian Unit Value Comparison \$/ piece

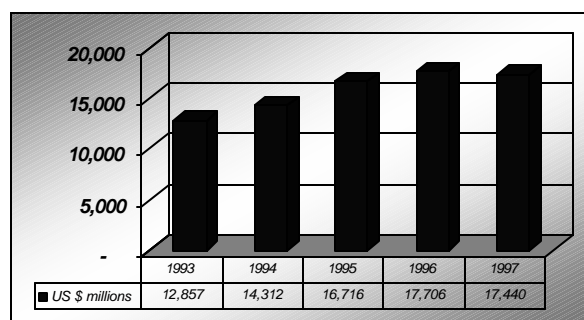


7.9.9. Hosiery, Underwear and Nightwear

Hosiery and nightwear has been combined into one category. This category includes briefs, night-dresses, undergarments, brassieres, tights, vests and other hosiery items for both men and women. This is the fourth largest category with a share of 10% in total apparel trade. Total world imports in this category has been \$17 billion in 1997.

Brassieres is the largest import item in the category with total world imports of \$3.3 billion in 1997 or 9.2%. Briefs and panties is the second largest import item in hosiery with total world imports of \$2.8 billion in 1997 or 16% of total imports in the category

Figure 1.1.1: World Imports of Hosiery & Undergarments



USA is the largest importer of Hosiery and other undergarments with a share of 26%. Major import item in USA are Brassieres (\$896mln), Briefs and panties (\$853mln), Underpants and briefs (\$449mln), cotton night shirts for men pajamas (\$415mln) and night-dresses and pajamas for women (\$371million). USA is the largest importer of Brassieres commanding a share of 26% in total world imports of brassieres. Underpants and briefs for men and women, slips and petticoats are few of the growing product categories for the USA market.

Table 1.1.1: Markets of Hosiery and Undergarments

World Imports Hosiery & Undergarments-1997			
	Value '000	CAGR	Share
Total	17,440,204	7.9%	
USA	4,470,942	14.1%	25.6%
GERMANY	2,232,616	0.6%	12.8%
JAPAN	1,558,274	11.7%	8.9%
HONG KONG	1,415,921	5.7%	8.1%
FRANCE	1,313,458	7.4%	7.5%
UNTD KINGDOM	1,097,848	13.7%	6.3%
NETHERLANDS	922,912	16.4%	5.3%
BELGIUM-LUX	468,776	4.4%	2.7%
ITALY	427,205	7.3%	2.4%
SWITZ.LIECHT	312,735	2.1%	1.8%
Others	3,219,517		18.5%

Germany is the second largest importer of hosiery and undergarments with total imports of \$2.2 billion and a share of 13%. Brassieres are the largest item on the import list of Germany with total import value of \$325 million in 1997 Japan is another major importer of hosiery and undergarments. Brassieres constitute more than 20% of total import product list of the Japanese market with a total annual imports of \$334 million.

Slips, petticoats, underpants and briefs for men are some of the categories that are experiencing high growth rates both in value and quantity term and should be exploited accordingly. Full-length women socks are a category with one of the highest import growth rates. Turkey, Brazil, USA and Australia are major growing markets for this product.

7.9.9.1. World Exports

China is the largest exporter of Hosiery and undergarments with total exports of \$4.6 billion in 1997. Growth in export values from China is almost three times higher than category's overall growth rate indicating that China is rapidly eating away market share of other players and is continuously moving into high value added segments in the product. Brief and panties constitutes 34% of total exports from China valued at \$1.6 billion in 1997. This gives China a market share of 51% in this category. Brassiere is the second largest export category from China with total exports of \$501million. China is the largest exporter of almost each sub-category in Hosiery, and other garments except for panty hose and tights, full-length women socks, girdle and corsets.

Table 1.1.1: Competitors in World Hosiery and Undergarment Exports

Exports Hosiery & Undergarments			
	\$ '000	Share	CAGR
Total	16,960,546		12%
CHINA	4,666,481	28%	35%
ITALY	1,667,812	10%	10%
USA	1,354,140	8%	14%
TURKEY	1,054,275	6%	18%
FRANCE	702,128	4%	6%
GERMANY	611,458	4%	0%
HONG KONG	442,054	3%	-6%
NETHERLANDS	1,199,068	7%	53%
MEXICO	729,531	4%	40%
KOREA REP.	0	0%	
Others	4,533,599	27%	

Italy is the second largest exporter of Hosiery and undergarments with total exports of \$1.7billion in 1997. However Italy's product mix is quite different form that of China. Pantyhose and tights is the largest item on the export list of Italy with total exports of \$744million. Other Hosiery is the second largest export item on Italy's export list followed by brassieres, briefs and panties. Whereas the annual growth in quantities exported form Italy is 6%, growth in values exported is more than 10% per anum, showing the gain in value addition in already high value added export form Italy.

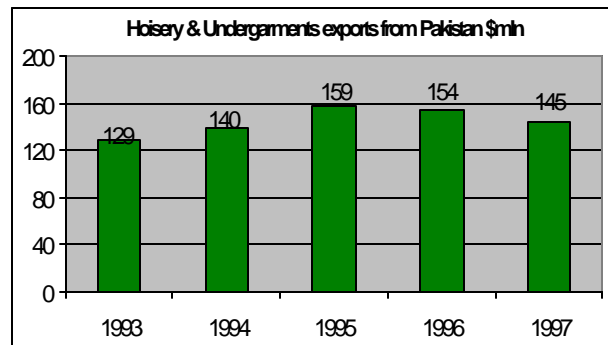
7.9.9.2. Asian Players

Three Asian countries, Turkey, Hong Kong and Korea are among the top ten exporters of Hosiery and undergarments, besides China. Turkey's largest export item is women nightdresses, and briefs are major export items from Turkey. In women nightdresses Turkey is one of the key player with a share of 18% in total world exports 18%. Turkey is rapidly moving into high value added segment of the market, especially in women briefs and panties, girdle corset and braces, slips and petticoats for women. Hong Kong is also a major exporter of briefs, panties and brassieres with total exports of \$558million in 1997. Korea is the fourth largest exporter from Asia after China, Hong Kong and Turkey. However Korea's exports are concentrated in just one category that is other Hosiery that accounts for 63% of Korean exports

7.9.9.3. Exports From Pakistan

Hosiery is one of the major export items from Pakistan with 10% share in total exports. However in a market where total world demand is growing by 8% per anum, growth in values of our exports is only 2% p.a. while growth in quantities exported is merely 3% p.a. Pakistan holds less than 1% market share of the total export market

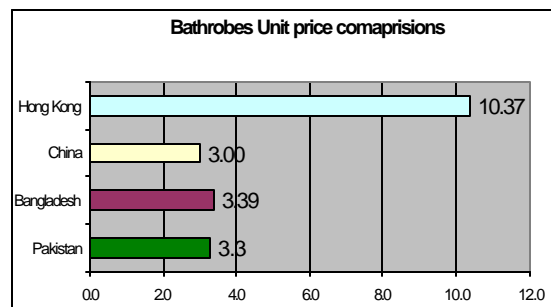
Figure 1.1.1: Pakistan and Hosiery and Undergarments Exports



7.9.9.3.1. Export Product Mix

Bathrobes is the major export item from Pakistan with total export value of \$42million in 1997, getting a share of 29% of total exports. USA, UK and Italy are top three trade partners for Pakistan. Pakistan primarily exports bathrobes made of cotton that constitutes 78% of total quantity exported in the category. The remaining 21% exports of Pakistan are in bathrobes made of synthetic material. Unit price realisation is higher for cotton bathrobes.

Figure 1.1.1: Unit Price Comparison



Most of the Asian exporters in the category achieve average unit price realisation less than \$4 in the product. However if we look at import prices in major importing countries e.g. Canada, its average import price of men bathrobes is as high as \$10. This indicates the potential that Pakistani exporters can explore. Germany, Japan, Italy and Spain are some of the other countries with huge imports in the category and that offers higher import prices, The need is to target these countries with improved quality standards and marketing effort. Women hosiery, Full knee length socks, night-shirts both for men and women and brassieres are major import categories in hosiery, with high global demand and should therefore be exploited accordingly.

7.10. Industry Structure

Domestic garments & apparel industry especially the knitwear segment is characterised by heavy presence of Vertically Integrated Units (VIUs). Since each process stage in the value chain of the final product affects the achieved cost, quality and hence price of the garment; therefore while discussing the structure of the garment industry it is important that we take into account available infrastructure at all of these processes.

Pakistan's apparel and garment industry comprised of approximately 700 vertically integrated units in the knitwear sector, whereas very few integrated woven garment-manufacturing units are present. It additionally has 670 finishing units both for the knit and woven fabrics. There are approximately 4,000 garment units, with a diverse range of stitching capability including leather, knit and woven garments and made-ups with 160,000 industrial and 450,000 domestic sewing machines. Most of these garment manufacturers are small units having less than 30 stitching machines. There are 400 units with 30 – 50 machines and 600 units with 50 – 300 machines.

The industry is characterised by majority of the manufacturing units located in few marked cities. Major concentration of industry is in Karachi and Lahore. Other hubs are Faisalabad, Gujranwala, Quetta, Rawalpindi and Sialkot.

For this particular study we have covered the following manufacturing processes:

- a) Knitting
- b) Dyeing
- c) Finishing &
- d) Cutting & Stitching

7.10.1. Knitting

Knitting is the first process in knitwear garments manufacturing. During mid eighties this sector showed the highest growth rate in the industry and attracted huge investment. In fact, majority of the current vertically integrated apparel units started as knitting units and later on expanded by forward integration. Knitting in Pakistan is concentrated in Lahore, Karachi & Faisalabad. Pakistan's knitting industry is primarily based on indigenous cotton yarns. Imports meet the shortfall of domestically grown medium staple cotton and the requirements for long staple and extra-long staple cotton, the utilisation of which is very low in the knitting sector.

Knitting industry is growing at a rate of 15 to 17 percent annually. The knitting sector has become a large consumer of domestic cotton yarns. Pakistan's knitting industry comprises of approximately 700 separate or vertically integrated units with approximately 15,000 knitting machines, which are mostly imported. The machinery used in the knitting sector, especially for circular knitting is largely imported from Europe and Japan. **Major portion of the country's entire production of knitwear, valued at nearly US\$ 742 million in 1998-99, is exported.** Despite current economic conditions, the industry is expected to continue to grow at a stable rate either through the expansion of existing units and /or through the establishment of new small and medium scale specialized knitting units.

7.10.2. Dyeing & Finishing

The historic reliance of our textile industry on yarns and grey fabrics for exports has contributed to the retarded development of this particular value addition process. The results are now proving damaging for the downstream industry in the garment sector. This area is therefore now becoming a fast growing sector of the industry in Pakistan.

Pakistan's fabric finishing industry comprises of approximately 670 units, the majority of which are independent small units with obsolete dyeing and finishing facilities. Their installed machinery is

considerably old and in need of major maintenance or replacement. The state of the art large-size processing units are a part of the integrated mill sector, which process woven fabric. Most of the knit processing units are also small scale with traditional wynch dyeing facilities.

The dyeing and finishing sector is especially characterized by poor quality results. One of the reasons is that the smaller units use mostly locally manufactured machinery, which does not have the capability to achieve the desired fabric shade or finish. About 50 percent of the processing industry's capacity is based on over 15 years old machinery and require replacement. Declining demand for low count yarn and increasing export market demand for finished fabrics should direct Pakistan's textile industry to diversify its processing base. The country will have to make considerable investments in bleaching, dyeing, printing and finishing machinery to catch up with its competitors in the region. Quality and hence, price realization are perhaps most effected at this stage by deficiencies in this sector.

7.10.3. Ready-made Garments: Cutting & Stitching

The ready-made garments sector is comprised of 4,000 small, medium and large-scale units that altogether have approx. 160,000 industrial and 450,000 domestic sewing machines.

Sewing machinery in Pakistan is mostly purchased from Singer of United Kingdom who offers complete purchase packages for garment manufacturer; and from Juki, Brother and Union Special from Japan, who offer lower prices for machinery and parts. Buttonhole and rivets machinery is purchased from the Button & Rivet Manufacturer while cutting machinery is sourced from Eastman Export Corporation of U.S.A. Second hand stitching machines are also used by a large majority of stitching units, most commonly used second hand stitching equipment is of Juki, Japan.

The RMG sector is the highest value-added sector of the textile industry. Its growth rate, however, is lower in the woven garments sector than that of the knitwear sector. Lack of skilled labour, quality control and insufficiently skilled managerial staffs are the main problems faced by the industry. Demand in the ready made garments sector is cyclic, secondly manufacturers & exporters have concentrated their efforts in selling to a few buyers in the European and the US markets, resulting in stiff in-house competition. Apart from a few well-established manufacturers, smaller units face serious difficulty in exporting directly to the foreign buyers.

Pakistan clearly has a very strong competitive advantage in this sector. Global textile trade is projected to increase from US\$ 332b to \$450b by year 2002 (Source: WTO). Highest growth will be in the apparel sector (from \$177b in 1998 to \$270b). 60% of the total trade will be generated from source countries with 'Domestic Fibre' production. Pakistan has a strong competitive advantage in this sector with its domestic cotton production. However, there's a strong need to strengthen our forward linkage industry by introducing quality standards and diversifying in products and markets.

The Pakistani ready-made garment sector however is marred by *very high* process losses at this stage of production. Cutting and stitching losses alone reach approx. 18%. The reasons are two fold: on the one hand existing cutting & stitching labour is not skilled enough to be productive and on the other, most of the manufacturing units don't invest in latest pattern making & cutting equipment that substantially lowers the process loss. *The need therefore is to make the manufacturers understand the relationship between process efficiencies / labour productivity and the cost of product.*

7.10.4. Machinery

The up-gradation to value-added production will require more automated and computerised technology. The machinery currently used in Pakistan is mostly European and Japanese: circular knitting, dyeing and finishing machinery is from Europe and the Far East. Embroidery, cutting and stitching machines are from Japan and Taiwan; and pressing machines are from Japan. Prominent makes are Mayer & Cie, and Terrat which are German; Fukuhara, Barudan, Brother, Naomoto, and Tajima are Japanese; Paillmug is Taiwanese; and Fong, that has a very strong presence in the dyeing sector, is made in Hong Kong.

Industrial sewing machinery is not produced domestically. Japan enjoys approximately 90 percent of the import market. Prominent U.S. suppliers to this market are Gerber Garment Technology Inc. for computerised sewing machines. There are no joint ventures in Pakistan for the manufacture of textile machinery and equipment. Pakistani manufacturers should seek entering into joint ventures with international manufacturers to access technical know-how and capital.

7.10.5. Vertically Integrated Units: Choice between contractual control and efficiency

Historically, there has been a preference for setting up vertically integrated units, especially in Lahore based knitwear sector. The main incentive for this has been to introduce contractual reliability factor in the export-based apparel industry. This trend has hindered the growth of specialised manufacturing / processing units for commercial operation, such as dyeing and finishing units. This is also one of the major factors contributing to our industry's strong reliance on traditional products and markets through introducing lack of flexibility in our manufacturing processes.

Apparel industry value chain includes weaving, knitting, dyeing, printing, finishing, stitching, trims and accessories, and packaging processes. All of these processes require independent units with specialised machinery and labour.

The disadvantages associated with a vertical set-up include:

- a) A VIU (Vertically Integrated Unit) operates on full capacity only when it has a sizeable order for shipment. However, in case of a business cycle downturn, capacity inefficiency increases.
- b) Though a vertically integrated unit provides better control over process performance, however, it affects the unit's flexibility to produce varied product lines.
- c) VIUs have high operational costs due to non-specialisation. Specialised units reap the advantages of economies of scale and this should benefit the entire industry by making it more cost competitive.
- d) The VIUs are highly capital intensive ventures. Specialised projects can provide attractive investment opportunity for small & medium sized entrepreneurs.
- e) Apparel accessories are imported at significantly higher costs due to the rudimentary level of the local accessories industry. There is significant potential for investment in this specialised field.
- f) Garment manufacturing is a management intensive business and hence the chance of success for new entrants / entrepreneurs are much higher with specialised, commercial units as evident from the success of the Karachi RMG cluster which is based primarily on specialised commercial units for knitting, dyeing, printing, finishing and stitching.

7.10.6. Industry Competitiveness

Our Readymade garments manufacturing sector mainly concentrates on providing a few products for the USA and EU quota markets. It will altogether be a different ball game once trade restrictions are lifted in December 2004 under WTO agreement. Even with quota protection, Pakistan's exporters have restricted themselves to only a few product categories with poor quota utilisation performance in the majority of the categories. Pakistan has been given quota allocations in various product categories to USA. However if we look at overall performance we find out that our industry has been locked mainly into Men's Clothing-Knit and Woven. The rest of the guaranteed market continues to under-perform.

7.10.7. Areas of Concern

Marketing and Technology are two key areas of concern, which need to be concentrated upon to upgrade the competitiveness the overall industry.

7.10.7.1. Marketing

Marketing is one of the weakest areas where great emphasis needs to be made. Demand in the ready-made garments sector is cyclic. Manufacturers and exporters have concentrated their efforts in selling to a few buyers in European and the US markets, resulting in stiff in-house competition. Apart from a few well-established manufacturers, smaller units face serious difficulty in exporting directly to the foreign buyers.

In mid 1980s Pakistan used to be a preferred supplier for buyers in the American, Japanese and European Markets. Pakistani products were superior in quality and were competitively priced. However the edge was lost as the industry refused to evolve with changing market realities. The initial good quality reputation with foreign buyers was also lost by the unscrupulous activities of the industry itself, it should not be difficult to regain buyers' trust by offering consistency and reliability.

7.10.7.2. Technology

As the clothing industry becomes more attuned to operating quick response systems and as consumers' interest in new fabrics and finishes grows, it is likely that the textile industry will become more of a limiting factor within the overall supply chain and therefore will require a prime focus for technology and service development. As more new development in technology comes in more products with better quality and variety could be made.

The growing number of new styles and collections required each year demands shorter lead times from design to sample, through manufacturing and delivery requires technology. As far as the consumer is concerned, an increased awareness of and requirement for qualities such as individual sizing and fit, patterning and coloration are beginning to appear alongside an established interest in new fabrics and garment styles.

7.10.7.3. Product Losses

The Pakistani ready-made garment sector however is marred by very high process losses at every stage of garment manufacturing. One of the major reasons why the local manufacturers have not yet been able to reduce losses is the lack of preference for specialised units. The industry has long been on the bandwagon of Vertically Integrated Units. The need is to make the manufacturers understand the relationship between process efficiencies, labour productivity and the cost of product.

Figure 7.10.1: Extent of Losses in the Knit Wear Industry

Extent of Losses in the Knitwear Industry	
Cut to Shipment Rejection	2-3%
Knitting losses	2%
Dyeing & Finishing Losses	4-7%
Cutting & Stitching Losses	15-18%
Total	23-28%

The variation in these losses depend on following factors:

- Type of fabric involved.
- Process Efficiency or Technological capacity.
- Dyeing & Finishing specs to be achieved.
- Pattern Efficiency that translates into Human Resource capability.

7.10.7.4. Reasons for losses

The reasons for Pakistan's losses are twofold;

- Existing labour for cutting and stitching is not skilled enough to be productive.

- Most of the manufacturing units have not invested in modern pattern making and cutting equipment that substantially lowers process losses.
- a) Market drivers for clothing industry technology include design, innovative fabrics, flexibility, quick response time, quality and service. In the 1980s, the focus in European as well as American markets turned to meeting the growing threat of low-cost imports from developing countries and to meeting a wave of consumer demand for greater product variety and quality. Time based competition and quick response were recognised as key strategies for survival and led to an upsurge in development of technologies such as CAD/CAM, garment dyeing, EPOS (electronic point-of-sale), EDI (electronic data interface) etc. Computer-Aided-Design (CAD) technology for this purpose is readily available and widely used all over the world; however, its use in Pakistan is still not very prevalent.
 - b) In the above mentioned percentage losses cutting, stitching and dyeing are major areas where the loss percent is huge. Recently due to the new technology, cutting is the only garment manufacturing operation which has been fully automated, by using initially the patented American Gerber System but subsequently developed by a number of competing companies. Laser technology is likely to find more widespread use for fabric fault detection and management systems. These operate during "laying-up" and automatically instruct the cutting head to avoid unnecessary waste, or alternatively to mark faulty panels for subsequent extraction. Computers in the Cutting Room are used for grading patterns and producing markers developed rapidly and offered significant reduction in lead times and labour costs for generating new styles, modifying existing ones and, above all, achieving significant improvements in fabric utilisation. Automatic cutting offers many benefit in the form of reduced labour, stocks, space and fabric wastage but remains expensive. CAD systems are also being used as merchandising tools for illustrating design ideas and products directly to final consumers. However, such systems are still primarily professional designers' tools.
 - c) There has been no major breakthrough in sewing technology. Semi-automation for high productivity of a few basic or sub-assembly operations e.g. attaching pockets to jeans, stitching collars for shirts, hemming underwear and T-shirts is being used. Most manufacturers have developed specially engineered workstations for very specific, basic sewing operations, which enables the operator to function more as a supervisor than a machinist.

7.10.8. Apparel Industry - Issues and Recommendations:

7.10.8.1. Marketing:

Pakistan has a strong manufacturing base in spinning and weaving, but the forward process of quality value-added garment manufacturing is scarce. This factor has also effected the production quality of fabric and processing, as the demand-pull has not been generated by the garment sector to improve the quality of fabric in the country. Options for growth for apparel industry in Pakistan are associated with its flexibility to change according to global market demand. At the macro level, the main hindrance to growth of the apparel sector in Pakistan has been lack of diversification, both in products and markets.

To stay competitive in the present world, Pakistan's apparel industry has to:

- Respond quickly and reliably to customer demands, i.e. show flexibility in production and perform the contractual obligations.
- Provide Quality at a competitive Price.
- Operate with competitive costs.

7.10.8.2. Product Diversification

One of the main limitations in the growth of apparel sector of Pakistan is lack of product diversification in its apparel exports. As shown in the early analysis of data of world trade we have seen that women clothing

have a very significant proportion in the world clothing trade. Unfortunately, in the clothing trade of Pakistan, the proportion of women clothing is very small and even within the same product group it is limited only to certain product types. Pakistan's apparel industry needs to diversify its clothing products in order to broaden its export base. Reliance on cotton apparel and that too with a limited product line will not be sufficient to obtain a sustainable competitive position in the international apparel markets.

As mentioned earlier 88% of Pakistan's clothing exports are in the men's garment segment, all the other major Asian competitors have a greater proportion of their clothing trade in women-wear. Women garments dominate the clothing exports of India, China, Turkey and Hong-Kong. The global split of men and women clothing trade is 46% and 54% respectively

7.10.8.3. Market Diversification

More than 65% of Pakistan's apparel exports are targeted towards the USA and EU market, both of these markets represent quota countries. The apparel sector has traditionally avoided non-quota countries for exports, e.g. Japan is a US \$ 17 billion market where Pakistan only exports US \$ 11 million worth of clothing merchandise. Similarly the presence of Pakistan in the Middle Eastern countries is also negligible

Market development can be more effectively achieved by creating awareness among entrepreneurs about the changing trends in the international markets. Moreover the weak link in garment manufacturing, garment fashion design, has to be promoted in a way that products match the demand criteria of markets. The garment design requirements vary from market to market. Only smooth and timely flow of information from target markets can have positive impact on the growth of the sector.

Figure 7.10.1: World Clothing Trade and Pakistan

Pakistan's Share in the World Clothing Trade		
Markets	Clothing–US\$ Billion	Pakistan's Share
GLOBAL	177	1.35 %
EU	78	1.1 %
USA	49	1.51 %
JAPAN	16.7	0.065%
Rest of the World	30	

Figure 7.10.2: Clothing Markets of Pakistan

Principal Clothing Markets of Pakistan US \$ millions 1997-98		
Markets	Clothing	%age Share
Total Exports	2,410	
USA	741	31%
EU	860	36%
Japan	11	Less than 1%
Rest of the World	7,98	33%

7.10.8.4. Image Building

As a textiles exporting country, Pakistan's current image is a "low quality, low price, non-consistent and unreliable supplier", which needs to be changed in terms of quality, manufacturing, reliability, cost etc. Establishment of corporate marketing and research facilities across the industry will open up new opportunities for the sector and can bring innovation, quality and consistency in operations that foreign collaborators take as a pre-requisite for any venture.

In building Pakistan's image as a quality supplier, exhibitions and trade fairs are of crucial importance. At present, Pakistan's representation at most of the major international trade events is without any strategic planning. The funds already allocated for this purpose (to EPB) need to be used more effectively to improve the "Made in Pakistan" image. EPB should be directly responsible for designing and standardising Pakistani stalls in such fairs and the impact of all such efforts must be assessed.

There is no arrangement for local exhibition / fair of international standards. The Pakistani competing countries are making very aggressive efforts to promote such exhibitions on regular basis. Exhibitions / trade fairs of international standards within and out side Pakistan must be planned with the foreign customer's expectations in mind, especially in areas like booth design, product mix etc. Local exhibitions must be made part of the regular world exhibitions' calendar and well advertised abroad, so that more foreign customers can be attracted to visit these events. It would also make it easier for the exporters to target regional markets such as Middle East and East Asia, including Japan.

Primary responsibility for all such activities lies with Export Promotion Bureau. However, to make such efforts more focused and aggressive, the creation of a "Corporate Marketing Company" can be initiated. The creation of this Corporate Marketing Company should be a strategic joint venture between private and public sector and then managed by the professionals with the goal to achieve certain objectives of image building of country as a good quality textile product supplier. This initiative will have the greatest impact on the SMEs, which do not have the financial resources to invest in in-house marketing.

7.10.8.5. Exporter's Performance Rating Database

To improve Pakistani exporters' credibility as consistent and reliable global suppliers, there's a need to develop an Exporter's Performance Rating Database. The criteria for such rating should include factors like product quality, financial performance, on-time deliveries, client portfolio, etc. For maximum objectivity and fairness, this facility should be set up as a joint venture with an accredited international company.

7.10.8.6. Export Channels

A majority of Pakistani companies are dependent on Buying Houses for selling their products. Some of the international brands do direct sourcing through their own buying set-ups in the country. Buying houses have played a formative role in developing the apparel industry in Pakistan. The major global brand names were introduced by these buying houses, which were actively selling in the international markets. These brands played a key role in improving the quality of our apparel manufacturing. Many of the quality and operational systems in practice now were introduced by these international brands. Working with the Brands, at the same time, improved the unit prices of our products. In the absence of a professional facility for apparel design R&D, buying houses also facilitate the process of introducing and developing new designs for the manufacturers.

On the other hand, where buying houses are paid by the foreign customers (3-5% of order value), they are blamed by the local manufacturers as watching out only for the buyer's interest and forcing prices down. The culture of unreliability has permeated the buying houses to some extent also, and some of these are blamed for miscommunications in the actual order terms and requirements etc., causing losses to the manufacturers.

The negative aspect of the reliance on the buying houses is that very few apparel manufacturing companies are involved in active direct selling of their products in the international markets. Most set-ups have not developed the management and presentation capability required for this purpose and many of the units do not have in-house merchandising departments. Even the units that have developed marketing capability rely mostly depend on the local buying houses to bring in the orders and are not actively involved in direct marketing of their products. This directly translates into non-diversification of markets and hence our reliance on the traditionally developed markets.

Only recently this trend has started to change somewhat, as the competition has stiffened and with the threat of global / regional trade agreements, some leading companies in Pakistan have started to invest in active direct marketing. However, there is a need to drive the whole industry towards the marketing oriented attitude. And for active, direct selling, Pakistan's leading apparel manufacturers should also be encouraged to invest in setting up 'selling houses' in international markets.

7.10.8.7. Brand Development

Despite having a strong export base in textiles, Pakistani companies have so far not invested in developing their own brands / labels. The highest level of value addition (in terms of earnings) occurs when products are sold under a brand name. Although this requires heavy investment on the part of manufacturer, however, there's enormous potential for our bigger players to invest in brands for the domestic, regional, and global markets.

Also, there is a need for attracting more international Brands to Pakistan if we have to improve our unit prices. Our competitors have a strong advantage over Pakistan in being successful in attracting foreign investment and joint ventures.

Creation and development of private national & international brands is very much essential at this stage of stiff competition. This will also help in attracting foreign investment in the apparel industry. It is recommended that there should be a "Brand Fund" to accomplish this objective. Those manufacturers / exporters, who take initiative to develop their own brands, they should be provided focused support through this fund. Such fund can be established on the pattern of Export Development Fund and / or can be subsidised through EDF.

7.10.8.8. Research and Development Facility:

Currently, there are no appropriate research facilities for the apparel industry, either at the public or the private level in Pakistan. Our export markets for apparel are the developed countries, which are very sensitive to consumer expectations and the end consumer is becoming more and more fashion conscious. As a result, lead times are shortening and new fabrics etc., are being developed everyday. For product development the apparel industry in Pakistan relies mostly on one of two options. Either the brand name companies supply them with exact product specifications or some of the larger companies send their merchandisers to USA and EU countries every year to purchase a whole range of fashion garments from retail outlets, which are used to forecast fashion colours, fabrics, designs, etc.

One common complaint from buyers is that the lead-time for prototypes / sample development is too long. The reason for this is that there is no dedicated facility available in the country for this purpose.

To provide better customer service to the international buyers purchasing from Pakistan and to provide a strong information flow to the local manufacturers, there's a need to develop a comprehensive, market driven database and research centre for the apparel industry. This centre will be playing a very important role to collect and disperse the best possible information about the products and markets. Also, this will be covering areas of latest fabric developments, blends, colours, patterns, design forecasting, etc.

Such a project should initially be developed as a public-private sector partnership and subsequently passed on to the private sector.

7.10.8.9. Focus on Specialised Units:

There has been a preference for setting up vertically integrated units since the emergence of apparel industry, especially in Punjab and Lahore area. The main reason for this was to build contractual reliability in export based apparel industry. This trend has hindered the growth of commercial/specialised units for independent processes of the apparel value chain. There are also strong indications that this is one major

contributory factor in our industry becoming bound to traditional products and markets and the lack of flexibility in our manufacturing systems.

In order to fully utilize the export potential the need is to encourage setting up of specialised units and to encourage small and medium scale entrepreneurs to enter into such ventures. Areas that need investment are:

- Fabric dyeing, printing and finishing.
- Accessories (labels, buttons, embroidery thread, zips, etc.).
- Stitching.
- Commercial product development centres.
- Commercial fabric dyeing labs.

At the Government end, such encouragement and positive signals can be given by facilitating long term financing / credit availability on subsidised rates to the SME sector for specialised units and by giving incentives on the import of duty free machinery for such units. On the other hand the forward integration of weaving and knitting towards apparel manufacturing should also be promoted on similar lines. Although this will lead to vertical integration but to achieve an exponential growth in exports, the incentives should only be offered for garment manufacturing.

7.10.8.10. Skill Development:

Apparel manufacturing is going to become a fashion driven industry requiring a high level of skill flexibility. Apparel industry's poor performance in terms of quota utilisation clearly shows the lost potential for exports due to non-diversification. One major hindrance to diversification is lack of skill flexibility to move from one product to another while keeping production profitable. Our industry operates at much lower productivity than our competitors. In just one area of pattern efficiency, our industry operates at approx. 10-12% more losses than the world average. This poor productivity performance erodes away our low wage advantage and makes us non-competitive in real terms. The real negative impact of this non-productivity will be felt with the phasing out of import quotas by developed markets.

Moreover, in this era of customer focus, most successful companies have recognised that they have to be able to provide a 'package solution' to their customers to retain their competitive edge. What that means for the apparel industry is that they have to cater to a buyer / brand who sells a whole range of products to its users. For these brands, their supplier preference lies with those countries which can **consistently** and **reliably** provide them the maximum items in that product range at an acceptable **quality** and **price**.

Pakistan caters to the low to medium priced products market and in a few fixed categories, like T-shirts and denim jeans. To really achieve breakthrough growth in product quality and hence, price, commitment is required at the national level for investment in training on modern lines.

All countries that have adopted apparel as a major export have invested heavily in the Human Resource Developments of work force at all levels. Apparel export requires skills in the fields of export marketing, selling, quality control, and technical.

The existing training and skill development facilities in the country are very limited and quite archaic. All real efforts for upgrading textile specialised education and training have been initiated by the private sector, which has now started to recognise the potential threat from a non-productive and un-skilled work force. Amongst the best examples of such institutes is the Textile Institute of Pakistan (TIP) located in Karachi and funded jointly by APTMA and the government (through EDF). This institution provides high quality degree / diploma education for the middle management level only. Unfortunately, TIP is completely focussed on the textile sector and does not cater to the Apparel industry at the moment. However, there's potential for a joint venture with TIP to develop apparel industry specific degree/diploma courses.

7.10.8.10.1. Recommendations:

- a) Standardized training programs for making high productivity and skilled labour force a competitive advantage. Standardised courses, faculty, facilities, frequency, etc.
- b) Improve the quality of trainers. This can be achieved by training with the help of professional trainers (through updated train-the-trainer programs) and sustained through upgrading the teacher's status and salaries.
- c) The training needs exist for supervisors, managers, and labour force.
- d) The fields identified as requiring training programs include dyeing, printing, knitting, stitching, quality control, pattern design, cutting, label manufacture, etc.
- e) Potential collaborators include EPB for using the EDF funding, existing educational institutions like TIP, PRGTTI, etc., foreign universities, and apparel industry machinery manufacturers (Italian and Japanese, etc.).
- f) Training the trainers is the only way to ensure continuous good quality training. Local and foreign consultants specialising in the apparel industry can be hired for this purpose for a period of time till our own professional trainers are ready to take their place. "Capit B", a UK based company, has made an assessment report for the knitwear industry of Lahore, but unfortunately the project never went through.
- g) Low cost options include trainers from Sri Lanka, Indonesia and Korea (due to recession) and retired trainers from the West.
- h) Joint venture for developing Vocational Training Institute(s) with foreign universities for developing course outlines and training laboratories. TIP has already successfully experimented collaboration with Clemson University of the US, and now with Manchester University of UK with a faculty exchange program.

7.10.8.11. Value-Addition Strategy**7.10.8.11.1. Export Rebate:**

The current rate of export rebates for the apparel industry is approx. 7.0% based on F.O.B. value of exports. These incentives are contributing to the lack of productivity focus in the industry. Secondly, this facility has been, and continues to be, extensively abused through fraudulent claims both by actual exporters and non-exporters. Rebates should be withdrawn in phases to promote competitiveness in our industry. However, at the same time duties on import of inputs should also be rationalised. Availability of inputs at international prices will enable the Government to do away with the hassle of refunds and rebate claims.

7.10.8.11.2. Export of Final Product:

Garments are the highest value added exports in the textile sector. The world export trend has been showing a tremendous shift from textiles to clothing, with 60:40 ratio in 1990 to approx. 40:60 by the year 2000. On the other hand, Pakistan's textile exports continue to focus on textile items (cotton, yarn, grey fabric, etc.) rather on the value-added segment of ready-made garments. As a result, Pakistan is actually a raw material supplier to its own competition. The export rebates and other incentives to the exporters of all raw material and apparel intermediaries should be reduced gradually and then withdrawn at the later stage. These incentives should be given to high value added products within a sub-sector, e.g higher count yarn and high-density fabrics.

7.10.8.11.3. Import of Synthetic Raw Materials

Pakistan is a cotton-based country, and as such our entire apparel industry is geared to cater only to the cotton garments market. Blended garments are an area of great opportunity for our industry, which is totally currently neglected. The current blend to cotton ratio is 45:55 versus 20:80, 10 years ago. A great increase in the demand for synthetic fibres and fabrics, has been witnessed over the past few years. This is a highly innovative field, with new blends and fabrics being developed everyday. The fashion trends in the

west are changing and moving towards blended garments, as opposed to pure cottons and synthetics. Blended garments, which require a higher level of fabrication skills, also fetch a higher value in the global markets.

Moreover, the global demand for 'performance wear', which includes water, fire, chemical and wrinkle resistant garments, is also increasing rapidly.

Keeping in view the above factors, there's a clear need to expand our range of apparels by diversifying into blends. This can be done by reducing / removing tariffs on the import of man-made fibres, which is a raw material for the manufacturing of fabrics and ultimately, apparel. With a strong base in weaving and knitting, this will allow growth in our textile industry and promote the export of blended apparels from Pakistan.

7.10.8.12. Joint Ventures

Pakistan textile industry as a whole has been lacking in potential foreign collaborations and joint ventures. Many of our competing countries (e.g. Bangladesh, China, Korea etc.) have attracted foreign collaborations successfully and now are enjoying the benefits of transfer of technology as well as the transfer of marketing expertise. Our textile industry and apparel industry specifically also needs to concentrate on this area.

Apparel manufacturing industry in Pakistan has been very slow to absorb new technologies especially in cutting and stitching room, and in dyeing and finishing halls. The results are exceptionally high wastage, process losses and rejections. To bring in new technology and shorten the learning curve for our industry, strategic foreign collaborations particularly in marketing and manufacturing processes is very necessary. Besides marketing and technology joint ventures also help in brand building. This would not only improve Pakistan's image but would also give its products a much higher unit value than it is presently getting.

Joint venture for developing a Vocational Training Institute with foreign universities for developing course outlines and training laboratories could also be made possible to enhance knowledge in the development of new products.

Countries like Bangladesh and Hong Kong have benefited enormously from this phenomenon over the past two decades. There are 170 foreign firms engaged in garments manufacturing in Indonesia. Possible types of foreign collaborations are contractual joint venture, 100% foreign owned manufacturing and joint manufacturing with local companies.

Export Promotion Bureau and Board of Investment (through the investment friendly policies) can play very effective role in this regard. Serious efforts should be made to establish effective joint ventures with foreign companies in the areas of garments manufacturing and marketing.

7.10.8.13. Role of government departments - Recommendations from the Industry:

Many of the Government agencies dealing with industry were established with the objective to facilitate, support and protect the labour class and to cater to the problems of workers. Unfortunately, because of the mutual consensus of the corrupt factory owners and the corrupt officials of these departments, the original objective of benefiting the workers is all but lost. Manufacturing and selling is both a management and labour intensive business. There are too many agencies interfacing with the industry, and the implementation of many such laws has in fact become a serious retardant for the entry of new, educated entrepreneurs especially in the SME sector.

Improper record keeping by the industry allows corrupt officials to find illegal means of making money through harassing the employers. This is a common practice followed by corrupt officials. The industry officials are not interested to take on the additional burden of legal expenses and to fight continuous legal battles against unfair fines imposed by these agencies. To avoid paying the due amount for employee

benefits and to avoid harassment at the same time, the common industry practice is to pay monthly bribes to low cadre Govt. employees.

Social Security, Labour and EOBI departments carry out whimsical inspections. There's no schedule set for these inspections. Labour laws should be reviewed to safeguard the interests of both the employer and the employee. As else where in the private sector all over the world, the employer should have the freedom to set performance criteria and accordingly hire and fire employees. There is great potential for deriving a formula for one window operation of payments and approvals which allows the entrepreneurs to focus on running the business rather than dealing with Govt. agencies.

ANNEXURE I

Pakistan's Projected Apparel Product & Market Mix in High Road Scenario-2005 US\$ Millions

WOMEN CLOTHING WOVEN	1997	2005	Annual G.Rate
USA	68.38	254.22	21%
EU	52.86	303.76	28%
Middle East	5.06	25.26	26%
Others	9.57	24.37	14%
Japan+HK	0.00	0.59	8%
Total	135.86	608.19	24%

Babieswear woven	1997	2005	Annual G.Rate
USA	2.84	6.32	12%
EU	10.96	18.35	8%
Middle East	0.46	0.87	9%
Others	2.10	3.29	7%
Japan+HK	0.00	7.66	109%
Total	16.36	36.49	12%

Sports-wear woven	1997	2005	Annual G.Rate
USA	0.15	0.00	0%
EU	0.18	0.29	7%
Middle East	0.00	0.00	0%
Others	0.07	381.23	240%
Japan+HK	0.00	2.82	40%
Total	0.41	384.33	166%

Mens Clothing Woven	1997	2005	Annual G.Rate
USA	182.41	488.42	15%
EU	62.39	86.01	5%
Middle East	8.28	5.00	0%
Others	29.44	36.33	3%
Japan+HK	0.00	48.37	691%
Total	282.51	664.13	13%

Hoisery	1997	2005	Annual G.Rate
USA	39.39	55.40	5%
EU	63.91	89.90	5%
Middle East	0.00	0.00	
Others	16.21	323.80	53%
Japan+HK	0.00	0.00	
Total	119.52	443.21	21%

Total Knit Garment Exports \$ mln	2,173	50%
Total Woven Garment Exports \$ mln	2,136	50%
Total Apparel Exports-2005	4,309	

Women Clothing Knit	1997	2005	Annual G.Rate
USA	26.86	123.95	24%
EU	20.30	38.59	10%
Middle East	0.00	0.00	
Others	4.46	5.99	4%
Japan+HK	0.00	38.54	551%
Total	51.62	207.07	22%

Babies Wear Knit	1997	2005	Annual G.Rate
USA	0.57	3.11	28%
EU	1.92	5.37	16%
Middle East	0.32	0.87	16%
Others	0.43	0.37	
Japan+HK	0.00	23.09	330%
Total	3.23	32.81	39%

Sports-wear Knit	1997	2005	Annual G.Rate
USA	11.37	0.83	-31%
EU	9.49	28.00	17%
Middle East	0.00	0.00	
Others	1.28	0.00	
Japan+HK	0.00	7.83	112%
Total	22.13	36.66	7%

Men Clothing Knit	1997	2005	Annual G.Rate
USA	239.62	1326.48	28%
EU	51.62	236.05	24%
Middle East	4.94	9.76	10%
Others	17.81	25.69	5%
Japan+HK	0.00	66.21	946%
Total	314.00	1664.19	27%

T-Shirts & Pullovers	1997	2005	Annual G.Rate
USA	31.57	92.76	17%
EU	15.58	32.34	11%
Middle East	1.98	3.70	9%
Others	6.26	4.13	-6%
Japan+HK	0.00	99.38	1420%
Total	55.39	232.30	23%

Annexure II Product Descriptions

Men's Wear			
SITC Code	Woven	SITC Code	Knit
84111	Over coats/Rain Coats (Wool)	84121	Suits (Wool)
84112	Over coats/Rain Coats (Cotton)	84310	Over Coats/Wind Jackets
84119	Coats(Blended)	84321	Suits
84122	Suits	84322	Ensembles
84123	Ensembles	84323	Jackets & Blazers
84130	Jackets & Blazers	84324	Trousers, bib & brace overall, breeches & shorts
84140	Trousers, bib & brace overall, breeches & Shorts	84371	Shirts of Cotton
84151	Shirts of Cotton	84379	Shirts Blended
84159	Shirts non Cotton	84389	Bath robes/Dressing gowns
84587	Articles of Apparel		

Women's Wear			
SITC Code	Woven	SITC Code	Knit
84211	Over Coats/Rain Coats	84410	Over Coats, Car Coats Wind Jackets
84221	Suits	84421	Suits
84222	Ensembles	84422	Ensembles
84230	Jackets	84423	Jackets
84240	Dresses	84424	Dresses
84250	Skirts	84425	Skirts & Divided Skirts
84260	Trousers, bib & brace overall, breeches & Shorts	84426	Trousers, bib & brace overall, breeches & Shorts
84270	Blouses, Shirts & Shirt Blouses	84470	Blouses, Shirts & Shirt blouses
84589	Articles of Apparel(Bathrobes & Dressing Gowns	84489	Night Clothing

Babies Wear			
SITC Code	Woven	SITC Code	Knit
84511	Babies Garments & Clothing	84512	Babies Garments & Clothing

Sports Wear			
SITC Code	Woven	SITC Code	Knit
84219	Ski & wind Jackets for Women	84562	Swimwear Mens & Boys
84561	Swimwear Men & Boys	84564	Swimwear Women & Girls
84563	Swimwear Women & Girls	84591	Track Suits
84581	Ski Suits Men	84592	Ski Suits Women

T-shirts and Pull Overs			
SITC Code	Woven	SITC Code	Knit
		8453	Jerseys Pullovers Cardigans & Similar Knit
		8454	T-shirts, Singlets & Other Vests

Hosiery	
SITC Code	Hosiery/ Under Wear & Night Wear
84161	Underpants & Briefs for Men
84162	Night Shirts & Pajamas for Men
84169	Other Vests, Pajamas for Men
84281	Slips & Petticoats for Women
84282	Night Dresses & Pajamas for Women
84289	Other Vests, Night Clothing for Women
84381	Underpants & Briefs for Men Knitted
84481	Slips & Petticoats knit for Women
84483	Night Dresses & Pajamas for Women Knit
84551	Brassieres
84552	Girdles Corsets Braces Suspenders
84621	Panty hose & Tights
84622	Women full length & Knee Length Hosiery
84629	Other Hosiery

8. Competitors Analysis

8.1. Bangladesh

8.1.1. Introduction:

Bangladesh exported ready-made garments worth US\$1 million in 1977-78. By 1997-98 this number had reached US\$3.8 Billion! The export oriented garment sector of Bangladesh started in the late 1970s and today the sector has been earning approx. 75% of total foreign currency of Bangladesh. In 1997-98 the total readymade garment exports stood at US\$3.8billion as against the country's total export of US\$5.16billion. There are around 2800 garment factories in the country employing over 1.3million people. The peculiar characteristic of Bangladesh readymade garment industry is the participation of women. Over 90% of the total workforce are female. On an average this sector has been expanding at a rate of around 20% per year in the last five years. It is predicted that such growth will continue up to 2005 & then Bangladesh apparel industry would enter into the era of sound industrial base and stable growth - the ingredients to compete in global market of free trade.

8.1.2. Industry Structure:

It was the six-year period from 1981 to 1987 that witnessed an unprecedented growth in the apparel sector of Bangladesh. The sector maintained an unheard average annual growth rate of 106% over this period. Bangladesh being a member of the WTO and a signatory of GATT, presently enjoys General System of Preference (GSP) status in the EU countries, this preferential treatment as among the least developed countries allows Bangladesh to export duty free garments to EU. The average rate of import duty on garments is 11%. Such benefits are likely to continue upto 2005 and even beyond, when the clothing sector will compete in free international trade regime. Presently a large portion of apparel export goes to USA and EU, with 44% and 51% respectively. Bangladesh is the 6th & the 5th largest exporter to USA & EU respectively.

Currently, Bangladesh apparel is rapidly moving towards high value added complex products like high quality suiting, jackets, embroidered ladies wear etc. Bangladesh has also recently entered the extremely quality conscious apparel market of Japan and has successfully created a niche for itself. A weakness that exists in the Bangladesh apparel industry is that it has generated a huge & steady demand for fabric. Presently 95% of the woven fabric and 35% of knit fabric required are being imported. Major suppliers are India, China, Taiwan, S. Korea, Hong Kong & Pakistan. Such dependency will be a cost barrier in the future with open market functioning of apparel sector. The local fabric sector is in dire need of investment.

Bangladesh has forwarded a demand for a ten-year extension for itself from the Agreement on Textile & clothing (ATC) due to expire in December 2004. In post 2004 scenario the fabric producing countries like India, China, Korea and Pakistan might not be interested in exporting fabric to Bangladesh, as these countries could themselves convert the fabric into garment. For this reason the Govt. of Bangladesh has established a fund of USD 202 million for the development of backward linkage industry.

8.1.3. Industry Analysis:

In early 1980s, Bangladesh decided to expand its textile industry vertically as well as horizontally. Liberal policies were adopted towards establishment of new spinning, weaving and processing units in the private sector and the existing textile mills, which were operated and managed under public sector by Bangladesh Textile Mills Corporation, were de-nationalised.

Later, they had planned to establish a full-fledged readymade garment sector to utilise the cheap and easy availability of enterprising female work force for the benefit of both the workers and the economy. International companies, especially from S. Korea, encouraged the establishment of this sector by providing necessary machinery, human resource development and at the same time, offered to book their orders for manufacturing garments by fixing wages on per piece basis. These international companies were already facing the quota restriction imposed by the developed countries. It was to their advantage to out-source production from an off-shore source, especially as the work force was also very cheaply available in Bangladesh and the government was also very keen on developing its export base.

A number of new upper middle class entrepreneurs cropped up in Bangladesh, who started investing in setting up of medium sized ready-made garment units. By making a modest investment of BD TK 5.0 million, a medium sized RMG unit could be set up; on the other hand, for establishing a medium sized spinning unit, an investment of BD TK 500 million was required. The single most important factor which made this sector flourish was absence of the element of loss. As European countries exempted Bangladesh from quota restriction and awarded the status of GSP, there was no marketing problem for their products.

As a result of the mushroom growth in RMG sector, the backward linkage sectors of cotton growing, spinning, weaving and finishing could not cope up with the fast growing RMG sector. In order to reduce dependence on imports of raw cotton, yarn and fabrics, to expand the backward linkage for creating more employment opportunities and to increase other economic activities, concerted efforts are being made for investment in the textile sector, but the desired results are yet to be achieved. This dis-equilibrium between forward process and backward process is to be reduced considerably by the year 2005.

Table 8.1.1: Comparative Position of Bangladesh and Pakistan

		Production	Requirements	Position
Raw Cotton (000 m.tonnes)	Pakistan	1513	1479	(+) 34
	Bangladesh	17	119	(-) 102
Cotton Yarn (000 m.tons)	Pakistan	1254	836	(+) 418
	Bangladesh	200	590	(-) 390
Cloth/Fabric (million SQM)	Pakistan	3837	2583	(+) 1254
	Bangladesh	2725	4425	(-) 170

Presently, raw cotton requirement of Bangladesh is around 160 thousand tons out of which local production covers about 12.5% of the requirements. By the year 2005, its raw cotton requirements would increase to about 350 thousand tons and the local production would cover only 15%. Against total present requirements of 590 million kg yarn (domestic 196kg and 395kg for export-oriented RMG sector), the present production capacity is around 200 million kg, which is planned to increase to about 400 million kg by 2005. But at that time the requirement would have increased to 818 million kg.

The present requirement of cloth is around 4425 million meters (local 1760m and export 2665m) which would increase to 6111 million meters (local 2370m and export 3741m) by the year 2005, but the present production capacity is far behind its present requirements. There is a great potential for expansion of the spinning weaving and finishing sectors. It is easy to expand the backward process than the forward process.

The present number of labour force engaged directly in textile sector is 4.4 million but with the expansion of additional garment and textile industry, about 2.5 million additional labour force would be required by the year 2005.

The share of the garment sector in exports has increased to around US\$ 3.5 billion or 69% of the total export earnings. To achieve the objectives of the textile revolution, it is all the more important to have political and social stability in the country so that more and more foreign investment is attracted. Also, in order to stay competitive in the international textile and garment market after 2005, the industry has to be modernised and international quality standards have to be adopted.

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Bangladesh is already reaping the benefits of value-addition. proportionately. Bangladesh enjoys a better position in the export of garments than Pakistan. Pakistan earns \$1.5 billions (18%) and Bangladesh \$3.5 billion (69%) from the yearly exports of garments and hosiery.

8.1.4. Analysis of a success story: The birth of Collaboration - Daewoo & Dosh:

The collaboration between Daewoo Corp. of S. Korea & Dosh Garment Company of Bangladesh signed in 1979 proved to be the stepping stone of Bangladesh garment success story. Forced by 1973 oil crises, increasing protectionism in developed countries and rising wages of domestic workers in developed countries favoured large organisations like Daewoo to make innovative and dynamic adjustments to their overseas marketing strategies. Daewoo had only to transfer its accumulated production and marketing expertise to Bangladesh to expand its international market for fabric and machinery. The collaboration between Daewoo and Dosh was in specific areas - in technical training, purchase of machinery and fabric, plant set-up and marketing. The component of the agreement that turned out to be the most critical to Dosh success - and ultimately to the expansion and success of Bangladesh's entire garment export industry - was training, both the formal training in Korea and the learning by doing at Dosh facility in Bangladesh. The decision to train Dosh workers at Daewoo's factory in Korea was unprecedented and the 130 member squad, including 14 women, another first, became the agents of change for Bangladeshi ready made garments industry.

There's tremendous potential for the Pakistani companies in replicating this model. The leading textile/apparel companies can play Daewoo's role for the SMEs in Pakistan.

8.1.5. Special Incentives for Bangladeshi Exporters of Garments:

- The Government of Bangladesh offers 25% export incentive for encouraging the use of local fabrics in the export oriented garment factories.
- The import of textile machinery is duty free and the import of raw cotton is also duty free.
- Other incentives include no ceiling on investment, tax holidays upto ten years, tax exemption on importing capital machinery, 100% duty exemption on importing spare parts for export oriented companies.
- Moreover besides the two export processing zones in Dhaka and the other at Chittagong, the government has also decided to set up a new Export Processing Zone (EPZ) in Ghazipur near Dhaka to meet the increased demand for setting up export oriented industries by investors from both home & abroad.
- Bangladesh government is also aggressively trying to attract foreign investment in the region. Residency permits for foreign national including citizenship, easy access to capital, profit and dividend repatriation facilities, double taxation avoidance, tax exemption on interest payable on foreign loans and Taka conversion in current account are a few examples of such measures.

Recently several policy reforms have been announced and implemented. These include:

- Facility of 90% credit as against confirmed irrevocable L/C.
- Exporters are allowed to open back to back L/C upto 75% against any clean L/C to import raw material.
- "Substitute Benefit Scheme" has been introduced in place of Export Benefit. Previously exporters used to draw this cash benefit from the Bangladesh Bank directly on FOB basis at 25% on export cost. At present local textile mills and knitting goods manufacturers are enjoying this cash benefit.

Following are the sectors where exporters are receiving 25% of the cash benefits:

- Weaving sector of textiles, knitted fabrics, hosiery, Grey fabric, silk fabric and ready-made garment made of local fabric.
- Exportable goods manufactured by local raw material namely towels, bed sheets, bedcovers screen cloth, terry bags, socks etc.
- Exporters who stitch garments out of their own manufactured fabrics.
- Government pays duty drawback money on actuals and national payment of duty and draw back at flat rate. This incentive is provided to both importers and exporters through the Sabharan Bima Corporation. SBC provides pre-shipment guarantee, post-shipment guarantee and comprehensive guarantee against the risk of importers and exporters exposed to paying premium at a discount rate.
- Commercial banks provide the first two mentioned guarantees upto 75% under the existing rules, Therefore exporters and importers in Bangladesh can be compensated at 85% in case of commercial risk and 95% in political risks.
- The concessional rates of import duty (only 2.5%) has been offered on capital machinery for export oriented industries
- Exporters are allowed to import machinery parts on payment of duty and sales tax at 2.5% only.
- Income tax rebate is also provided to qualified industries for period ranging from 5 to 7 years.
- The state provides highly discounted rates for insurance cover to garment industries, especially against fire and marine risks.
- The exporters have been allowed to utilize 7.5% of their foreign currency deposits of retention Quota for import of machinery and raw material as well to participate in export trade fair, seminars and foreign travelling without any prior permission of Bangladesh Bank

8.1.6. Lessons to be Learnt:

8.1.6.1. Foreign Catalyst Model:

The Bangladesh model shows the wisdom of pursuing an outward-looking development strategy as a basis for efficient industrial development. However before Pakistan can emulate the model, some important areas must be addressed:

- a) Do we have available the critical factors (capability/capacity, management, marketing, policies, etc) needed to compete in the international markets?
- b) Distortion in policies and underdeveloped local institutions, including markets and administrative mechanism.

A foreign catalyst can prove very efficient only when combined with a local spark. The local spark that mobilizes necessary local resources including the most important of all, the human resource, and a foreign catalyst that brings the technical, marketing and managerial know-how needed to produce and sell manufactured export goods. Another benefit of such a foreign catalyst model is that both agents can contribute to establishing the minimum policy environment.

8.1.6.2. Minimum Policy environment:

Pakistan needs to move in the direction of a rational policy environment - one that provides equal footing with foreign competitors. The major components of this policy environment should be:

- a) A realistic exchange rate policy,
- b) Speedy and unrestricted access to intermediate inputs at international prices
- c) Access to trade financing, and unrestricted investment licensing.

8.2. Indonesia

8.2.1. Introduction:

Indonesia has a very competitive, diversified garments industry, which is capable of supplying garments to highly developed niche markets, as well as to the low value segments at very competitive prices.

Indonesian textile and textile products industry is driven by two main forces. First, indigenous ethnic Chinese entrepreneurs and second, foreign firms from countries like Japan, USA, EU and Taiwan. Rising labour costs in developed world have rendered garment manufacturers in these countries non-competitive. As a result these countries have on the one hand imposed tariff and non-tariff barriers on imports from developing countries, and on the other garment manufacturers in these countries have invested abroad for overseas production to serve their home markets. Indonesia has benefited a lot from this phenomenon of overseas investment by foreign firms through joint ventures. Because of rising labour costs and quota restrictions in their own countries, a lot of expansion by the Singaporean, Korean, Hong Kong and Malaysian firms was done in Indonesia, particularly in Indonesian Duty Free Zones. There are 170 foreign firms engaged in garments manufacturing in Indonesia. Major types of foreign collaborations are contractual joint venture, 100% foreign owned manufacturing and joint manufacturing with Indonesian companies. Prestigious foreign brands have also entered into joint ventures with Indonesian companies.

Besides foreign brands, Indonesia is on its way to developing its own strong indigenous brands. Some of these brands are getting recognition in Indonesia and are very competitive in quality and price with global brands. They have also targeted South East Asia, Middle East and Russia. Although global brand building is a long process requiring persistent effort, Indonesian firms have designs for global brand building. At present, however, they are concentrating on regional brand building. During 1997-98 Indonesian garment export was US\$ 3.39 billion. Outerwear garments are the dominant export products.

8.2.2. Market Diversification:

Garment exports of Indonesia and Pakistan to various countries in 1997-98 in million US\$.

Table 8.2.1: Garment Exports of Indonesia and Pakistan (US \$ millions)

Importing Countries	Indonesia	Pakistan
USA	873.13	718.44
Germany	181.50	156.61
England	155.30	118.61
France	61.95	71.95
Canada	33.50	50.70
Japan	155.97	8.86
Australia	35.70	5.15
Malaysia	28.69	0.52
Hong Kong	11.08	1.54
Taiwan	7.49	0.31
South Korea	5.22	0.31
China	0.782	-
Thailand	0.709	-
UAE	148.29	29.45
Saudi Arabia	122.64	23.07
Kuwait	9.54	3.45
Algeria	0.338	-
Other African Countries.	92.83	-

Two areas of concern become obvious from this comparison. Firstly, in textile quota countries Pakistan has a comparatively better performance than in non-quota countries like Japan, Australia, Middle East, etc. In statistical terms, in quota markets Indonesian export to US exceed Pakistan exports by 21.5% while in non-quota markets, like Japan, Australia and UAE, Indonesian exports exceed Pakistan by 1660%, 593% and 404%, respectively. This is a serious threat to Pakistan from Indonesia in Quota countries in Post Quota regime. Secondly, Indonesia is concentrating on regional markets as well and this is an area completely ignored by Pakistan. Indonesian manufacturers are establishing their own brands in these markets. This is the right way to move from regional to global brands.

8.2.3. Cost Comparison:

Indonesian garment manufacturers get most of the basic input material used in garments industry at very competitive price. A wide variety of garment accessories like buttons, zips, etc. are readily available locally. Other overhead costs are also lower for Indonesian manufacturers. Petrol costs US\$ 0.133 per litre, Diesel US\$ 0.08 per litre and electricity US\$ 0.10 to small business & US\$ 0.09 for big business per unit. The only serious competitive disadvantage of Indonesian garment industry is its dependence on imported cotton and cotton related inputs material. Although full duty draw back is allowed for export on imported raw material, however due to the freight and transaction costs the costs are higher for Indonesian garments manufactures.

In labour intensive garment industry labour costs are very critical for international competitiveness. In Indonesia the standard labour cost in garments industry is US \$30 per worker per month with free lunch, and one-month's bonus per year. The supervisors are paid US\$ 60 per month. This is much lower than the prevalent rates in Pakistan. However, the salary structure of the foreign joint venture companies is different. Indonesian labour in garments industry is more disciplined and skilled than in Pakistan and as a result labour productivity is much higher. For example for light ladies jackets, output was 14 jackets per worker per day and out put for polo shirts per worker is 16 shirts per day.

Indonesian manufacturers also have the advantage of low cost of capital available. Mark-up varies from 6% for US\$ to 13% for rupiah loan. The average inflation rate is 9%. Due to economic & political crisis during 1998, the Indonesian economic fundamentals got disturbed with inflation during 1998 at 77%, average mark-up rate at 35%, and a highly volatile currency. However, the recovery seems to be underway and the G.D.P. growth predictions for the year 1999-2000 is 2 to 4% with 15% inflation and 13% bank mark up.

Banking, insurance, Customs clearing agents: These institutions are at par with Pakistan in cost and efficiency. The average clearance time by the Customs department for a consignment in 48 hours. Duty drawback claims takes 3 to 4 months to be settled. Hard infrastructure: Roads, Railways, seaports, airports, shipping services in Indonesia are more developed and efficient than in Pakistan.

8.2.4. Incentives for Export:

All imported raw-materials which are used as input for exports are exempt from duties, Value Added tax (VAT) and all other local taxes. The duty drawbacks claims are normally settled with custom department in three to four month's time. Besides these incentives in Indonesia there are 7 bonded zones which are entitled to the following incentives:

- Exemption from import duty, import surcharge, excise, income tax, Value Added Tax and Sales Tax on Luxury Goods on the importation of capital goods and equipment including raw materials for the production process.
- Allowed diverting their products amounting to ¼ of their export (in terms of volume) to the Indonesian customs area, through normal import procedure including payment of customs duties.
- Allowed selling scrap or waste to Indonesian customs area up to the highest tolerance of 5% of the amount of the materials used in the production process.
- Allowed to lend their own machinery and equipment to their subcontractors located outside bonded zones for no longer than two years in order to further process their own products.

8.2.5. Strengths of Indonesian Garment Industry:

- a) Cheap, disciplined and skilled labour, particularly the women workers and entrepreneurs who dominate the garments industry.
- b) Availability of a wide variety of fabrics and garment accessories at competitive prices.
- c) Geographic and cultural proximity with Singapore, Malaysia, Korea, Hong Kong, Japan. It was easier for foreign firms to expand to Indonesia due to these reasons.
- d) The ethnic Chinese minority in Indonesia who are very resourceful and hard-working, run 90% of the Indonesian garments industry
- e) Political Stability and consistent investment policies: The investment policies particularly the incentives for export processing zone have not been changed during the last twenty years.
- f) The foreign direct investment in textile garments industry in diverse products, ranging from simple standardised products to high fashion garments.

8.2.6. Product Mix Comparison:

High fashion ladies garments are the strength of the Indonesian market. The availability of a wide variety of fabrics, garments accessories, fashion schools, regular fashion shows, fashion models competitions and a substantial domestic market (young and middle age Indonesian men and women wear western dresses) are important factors in growth of high fashion garments industry in Indonesia. In knitwear Indonesia is almost 100% dependent on import of cotton. Due to Indonesian dependence on imported cotton, Pakistan has a competitive advantage over Indonesia in cotton knitwear. However, wide spread presence of foreign brands in Indonesia gives it an edge in high quality branded knitwear. Pakistan still competes in lower and medium segments of the international market.

8.3. South Korea

8.3.1. Introduction

The textile industry has been the export leader of the country, involving 18.7% of Korea's manufacturers, employing 15% of the country's work force and recording 13.4% of shipment in value. Its textile export rate has been growing rapidly until 1995. Although the Korean textile export in 1998 decreased 10%, or US\$ 16.6 billion from the previous year's \$18.4 billion, it still occupies a large portion of the nation's total export volume and is the world's 4th largest textile supplier.

8.3.2. Textile Exports Review

Korean textile exports for 1999 are projected at US\$ 17 billion, a 2.8% increase over 1998 and apparel is expected to top the exports. Profitability is likely to worsen due to fierce competition with Japan, Thailand, Taiwan and other competing countries with low-price products. As for cotton yarn, demand from advanced countries is forecast to pick up, as demand for melange yarn from Hong Kong has been steadily rising. In the case of spun yarn, dull exports are forecast due to the economic slowdown in Japan and downward price pressure from Indonesia and other competing countries.

For fabrics, exports are likely to experience difficulty due to the continuing economic slumps in Hong Kong and China and slackened demand from advanced countries (except for EU) such as Japan and United States. Another reason is stronger import restrictions imposed by Central and South American nations in terms of tariff controls, anti dumping measures and increased custom duties. Exports have also been effected by economic stagnation in the Middle East region, as oil prices remain relatively low, as well as continued low-price exports from Indonesia and other Asian countries.

8.3.3. Apparel Industry Analysis:

Due to improved competitiveness with Won's depreciation, the apparel-manufacturing sector has come to produce apparel domestically, previously handled overseas. With production partly transferred back to Korea, apparel-manufacturing enterprises are facing difficulty securing adequate export-specialised stitching units.

The apparel exports show an upward trend mainly to the United States. Export quotas for the U.S. have been exhausted in the first half of the year. As for Japan, exports are expected to increase on account of Yen's appreciation. For Taiwan, a dramatic export expansion is predicted in the current year, which will continue into the next year.

With growing consumer trends towards the purchase of value-oriented and reasonably priced products, the polarisation of brands is likely to continue. Import of apparel into Korea is projected to drastically decline next year due to the strengthening of local brands.

8.3.4. Restructuring of Korean Apparel Industry - The Taegu Dream:

Taegu and the surrounding **Kyongsangbuk-do** region are well known as Korea's largest chemical fiber producer, providing 43.7% of the chemical fiber products in Korea. Various other textile industries have also been developed, from yarn spinning, weaving and dyeing to fashion garments and textile machines. To restore Taegu's textile competitiveness and to provide higher value added products, many restructuring steps are being taken. A brief description of this project and its support plans is as follows:

8.3.4.1. The Milan Project

The project named ‘**Milan Project**’ is scheduled to unfold over the next 4 years (1999-2003), focusing on infrastructure and production facilities, the systematic development of technology and technicians, the establishment of a fashion and design R&D base, and the activation of trade information. The project will be implemented through 17 support plans.

8.3.4.1.1. New Materials and R&D Centre

As the first step in the infrastructure project, a New Materials Research & Development Center will provide small and medium-sized companies with the latest technical information and fashion/materials trends in overseas markets. The center will also include a pilot plant for running on-the-job technical training programs and assisting manufacturers to adopt new technology.

8.3.4.1.2. Advanced Dyeing Centre

Dyeing is an integral step in the garment manufacturing and adds value to the production. Practical drawings of new dye patterns will be supplied to the textile print manufacturers in Taegu and throughout the country.

8.3.4.1.3. Waste Water Disposal

In advancing the dyeing industry, it is necessary to eliminate water pollution. To maximise the advantages for all companies participating in the Taegu Dyeing Industrial Complex, an integrated automatic wastewater disposal system will be constructed.

8.3.4.1.4. Energy Saving

Large investment will be placed in developing energy-saving, pollution control, and advanced dyeing technologies. Companies will be encouraged to employ fully automatic facilities, such as up-to-date dyeing machinery, for maximum efficiency.

8.3.4.1.5. Dyeing and Fashion Design Application Lab

Dyeing and Fashion Design Application Laboratory will develop new/distinguished fabric designs and dyeing patterns, and provide experimental analysis and education as well as training programs.

8.3.4.1.6. Knit Pilot Plant

An exclusive pilot plant for sweaters and knit fabric will be constructed. Equipped with fully automated facilities, the center will help small and medium-sized enterprises shorten their lead-time for sample shipment and promote own-brand export.

8.3.4.1.7. Financial Support for High Functional Materials

The government of Korea is considering financial support for chemical fibre manufacturers for developing innovative new fabrics.

Table 8.3.1: Korea's Investment Plan for High Functional Materials

Investment Plan for High Functional Materials						
(US \$ millions)						
Sector	Total	1999	2000	2001	2002	2003
Technology/technicians	179.3(31.2%)	40.3	39.2	34.4	33.2	31.9
Fashion/design	155.0(27.0%)	13.9	37.0	62.9	39.8	1.2
Production facilities	133.5(23.2%)	27.8	26.2	26.2	25.7	27.4
Trade information	106.8(18.6%)	32.1	39.2	14.7	10.56	10.1
Total	574.71(100%)	114.35	141.81	138.43	109.44	70.82

8.3.4.1.8. Financial Support for Advanced Facilities

To fasten the adoption of high-tech production facilities such as air-jet looms, substantial financial support is already available.

8.3.4.1.9. Fashion Design Development Promotion Centre

The center will be established in the Taegu General Distribution Plaza to provide small and medium-sized companies with updated information and promote local fashion design development. The center will also be used as a fashion stage and theatre.

8.3.4.1.10. Fashion Trend Information Centre

To establish a more practical technical base, small-scale production of various products (short runs of high value, fashion items) is being encouraged.

8.3.4.1.11. Systematic Technician Development

In order to develop a higher value-added, advanced manufacturing industry, it is necessary to correspondingly raise the labour quality. So, Textile Technology College will be elevated to the status of Taegu Textile and Fashion College to be administered by the Ministry of Labour. This plan will allow a more systematic supply of well-trained human resources.

8.3.4.1.12. Fashion Apparel Valley

The local textile industry has long been focusing on weaving and dyeing. To make it more value added, advance the business culture and support the fashion design and sewing industry as a whole, "Fashion Apparel Valley" has been established.

8.3.4.1.13. Support for Manufacturing Corporation

To prevent excessive competition between domestic manufacturers, which reduces the export prices unnecessarily, the government will support "Excessive retaining" associations to stabilize prices and output.

8.3.4.1.14. Textile Information Centre

The textile information centre will gather national and international data and perform reliable analysis to build an adequate database and information network.

8.3.4.1.15. Korean Dyeing Technology Centre (KDTC)

The Korean Dyeing Technology Center (KDTC), a world class research institute, has the world's best pilot equipment and more than 100 first-rate experimental facilities. The federal and local governments fund this project.

To move the textile industry into high value addition and to convert it into a distinction oriented industry, it is required to develop and employ dyeing and finishing technology near the top end of hierarchy. The KDTC was organised to develop, and provide the small and medium enterprises with updated dyeing, finishing and wastewater treatment technology. It provides technical support to the dyeing and finishing companies in trouble shooting. It also provides a pilot plant for sample production. It's objectives also include re-education and training of technical personnel in industrial fields to cope with globalisation. It publishes a magazine specialised in technology for dyeing and finishing and environment preservation. KDTC also provides support for industrial policy formulation in dyeing and finishing and environment preservation fields.

8.3.4.1.16. Korea Textile Development Institute

The Korea Textile Development Institute (KTDI), with KDTC, is the major institution in the Taegu textile industry. It actively plans the development of new materials, effective production and creative designs, and world-class dyeing technology and facilities.

8.3.4.1.17. Textile Exhibition Centre

The national government is also planning to support a Taegu Textile Festival held by the Taegu metropolitan government so that it becomes a national industrial event and, more likely, an international fair that will attract the world attention. International Textile. The Taegu Textile Exhibition Center is under construction, scheduled to be completed by December 2000.

Aiming to make Taegu the world's third largest textile supplier by 2003, the comprehensive Milan Project is expected to convert the present supplier-oriented, low-price mass production system into a consumer-oriented, small-quantity / high-quality industrial system, thus bringing the fashion sector and synthetic fiber producing sector into a world-class fiber-and-fashion total center.

8.4. India

8.4.1. Introduction:

The textile industry in India occupies a unique position in the country. One of the earliest to come into existence in India, it now accounts for about 1/5th of the total industrial production, contributes to nearly 1/3rd of the total exports and provides employment to millions of people. 20% of the value addition in the manufacturing sector is contributed by the textile sector and its contribution to GDP is 4–5%.

The Indian textile sector has witnessed a phenomenal growth during the last decade. The spindle capacity has moved up from about 28.09 million in 1993 to 33.93 million by 1998. A significant feature of this growth is the tendency to set up 100% export oriented units in the field of weaving.

The production of spun yarn is growing at an annual growth rate of 6% during the last five years. The production of blended yarns has also shown an upward trend with an annual growth of 15.6% during the last five years. The production of 100% non-cotton yarn has registered an annual growth of 5.6 % during the last five years.

The total production of cloth by all sectors i.e. mill, powerloom, handloom and khadi, wool and silk has also shown an up trend in recent years. The total production of cloth has shown an annual growth of 6.1% during the last five years. The cloth production from decentralized hosiery sector has shown significantly higher annual growth rate of 12.3% during the last five years.

8.4.2. Readymade Garments Industry

Readymade garments have the largest share of exports amongst all textile items. The garment sector has witnessed phenomenal growth. The export of garments, which was merely of a few thousands of dollars during seventies, reached US\$ 4,237 Million in 1997. Export during April- December 1998 reached US\$ 3,564 Million as against US\$ 3,001 Million during the corresponding period of the preceding year.

8.4.3. Quota Administration:

Under the export quota policy, the available quotas are distributed under different systems of allocation, such as Past Performance Entitlement (PPE), First Come First Served (FCFS), Manufacturer Exporters Entitlement (MEE), Non-Quota Entitlement (NQE), Power loom Exporters Entitlement (PEE), New Investors Entitlement (NIE), etc.

8.4.4. STEPS TO BOOST TEXTILE EXPORTS

The central objective of most of the schemes undertaken by the government of India is to ensure availability of capital goods and raw material to the manufacturers at globally competitive rates.

8.4.4.1. Export Promotion Capital Goods Scheme (EPCG):

Under the Export Promotion Capital Goods Scheme, textile machinery, both new and second hand, can be imported at concessional rate of duty, subject to time bound discharge of the prescribed export obligations. The Scheme has two windows, namely, 10% concessional duty and zero duty. **The threshold limit for availing zero duty EPCG scheme has been lowered from Rs. 20 crore (\$4.61 Million) to Rs. 1 crore of exports (\$0.23 Million) for the garment sector from 13th April, 1998.**

8.4.4.2. Advance Licensing Scheme:

This scheme permits duty-free import of raw materials, intermediates, components, consumables, parts, accessories, mandatory spares and packing material required for the manufacture of textile and clothing export products. With a view to facilitating exporters to access to duty-free inputs under the scheme, standard input-output norms for about 300 textiles and clothing export products have been prescribed. The Standard Input-Output Norms for a number of apparel items have been revised upwards, based on large garment size industry.

8.4.4.3. Duty Entitlement Pass Book Scheme(DEPB):

The objective of the DEPB scheme is to neutralize the incidence of customs duty on the import content in the export product. DEPB credit rates have been prescribed for 74 textiles and clothing products. In pursuance of an initiative taken by Ministry of Textiles, the value cap on DEPB rates for certain textile products has been suitably increased.

8.4.4.4. Special Import License:

The special import licenses (SIL), are valid for import of items appearing in ITC (HS) classification of export and import items subject to payment of normal customs duty.

8.4.4.5. 100% Export-Oriented Units / Free Trade Zone Scheme:

Under the scheme, units undertaking to export their entire production of goods can be set up. They are entitled to import of all inputs as well as capital goods on a duty-free basis.

8.4.4.6. Duty Drawback Scheme:

Duty Drawback is a mechanism for refund of Central Excise and Customs duty chargeable on any imported materials or excisable materials paid by the exporters while undertaking export production. The objective of the scheme is to reduce the burden of indirect taxes on exports and make them more competitive in the international market.

8.4.4.7. Duty Free Import of Trimmings and Embellishments:

Earlier, seven items of trimmings and embellishments namely labels, tags, stickers, buttons, printed bags, belts and hangers were allowed to be imported on a duty-free basis by the bona fide garment exporters. Dept. of Revenue extended the facility for duty-free imports to "All types of fasteners" and "poly-wadding" also.

8.4.5. Some other steps taken by the Indian Government:

Government has reduced interest rates on pre- and post-shipment credit from 11% to 9% for the remaining period of 1998-99.

- a) An important development has been the constitution of the Export Promotion Board (EPB). The basic objective of the EPB is to co-ordinate efforts of all concerned Ministries to create a more favourable environment for maximising export earnings.
- b) Among the other existing institutional arrangements, the most important are the Export Promotion Councils for different sectors, such as Apparel Export Promotion Council, Cotton Textiles Export Promotion Council, Synthetic & Rayon Textile Export Promotion Council etc. These Textile EPCs function under the direction of the Ministry of Textiles. These organisations have taken a number of steps, including sponsoring buyer-seller meets, participation in fairs in major markets, releasing advertisements in foreign trade magazines, product development and quality up-gradation through appropriate training programs, etc.

- c) For redressing grievances of exporters, a high level "Textiles Committee" chaired by Secretary Textiles, with representatives from Ministry of Commerce and Department of Revenue, has been constituted. The Committee also takes up inter-ministerial matters like DEPB rates, drawback rates, steps to counter anti-subsidy, anti-dumping measures targeted against Indian textile exports etc.
- d) The Textiles Committee has the primary objective of ensuring quality of textiles both for internal marketing and exports. Its functions include promotion of textiles and textile exports, research in the technical and economic fields, establishing standards for textiles and textile machinery, setting up of laboratories and data collection.

The Textiles Committee, besides its head quarters at Mumbai, has 29 Regional Offices. It has set up Laboratories at 15 important centres to assist the industry and trade in testing their products. The Committee has the following functional divisions at headquarters, (1) Textiles Inspectorate Wing (2) Textiles Laboratory Wing (3) Market Research Wing (4) ISO Wing (5) Vigilance Cell (6) Accounts Wing, and (7) Administration and Co-ordination.

8.4.6. Modernisation-Technology Up-gradation Fund:

A Technology Upgradation (TUF) Fund Scheme for Textiles and Jute Industries to provide for interest incentive on loans from Financial Institutions has been approved by the Government of India with a view to modernisation, technological and quality upgradation of these industries so as to enhance their productivity, quality and competitiveness. The Indian government has announced an amount of \$5.921 billion for this fund and this Scheme is operative for five years commencing from 1st April 1999. **The main feature of the TUF Scheme would be a 5 percent reimbursement on the interest actually charged by the identified financial institutions on the sanctioned projects.**

8.4.6.1. Investment Options:

- Under the TUF Scheme, generally only new machinery will be permitted.
- Laboratory equipment or equipment required for de-bottlenecking the production process will also be eligible for funding under TUFS.
- Waste reduction equipment or devices will also be eligible for funding.
- The total of investments in the following will not normally exceed 25% of the total investment in such plant and machinery:
 - Land and Factory building including renovation of factory building and electrical installations;
 - Energy Saving Devices;
 - Effluent Treatment Plant (ETP);
 - Water Treatment Plant for captive industrial use;
 - Captive power generation.
- Investments in the installation of the following facilities including necessary equipment:
 - In-house R&D including designs studio;
 - Information Technology including ERP;
 - Total quality management including adoption of appropriate ISO/BIS standards.
- Investment in the acquisition of technical know-how.
- The assistance will be need-based. There will be no minimum or maximum limit for individual loans.
- Investment in common infrastructure facilities owned by the association, trust or co-operative society of the units participating in the TUF scheme is also eligible.

8.4.6.2. RUPEE LOAN:

Effective rate of interest charged to the borrower concerned will be five percentage points lower than the prevailing commercial rates of interest charged by the Financial Institutions and Banks concerned; the Ministry of Textiles will reimburse the five percentage points under the scheme.

8.4.6.3. FOREIGN CURRENCY LOAN:

As applicable for normal Foreign Currency loan. However, cover for exchange rate fluctuation not exceeding 5% p.a. would be provided under the scheme.

One of the main requirements for sanction of assistance under the TUF Scheme will be the availability of competent management to the unit concerned to carry out the modernisation programme and also to manage the operations of the unit efficiently. Towards this end, lending Agencies may stipulate conditions relating to broad-basing of the Board, appointment of senior technical/financial executives, professionalism of the management and constitution of such committees as may be considered necessary.

8.4.7. Task Force on I.T. for Textiles:

The Textiles Ministry has constituted a Task Force for suggesting measures for introducing IT in textiles sector for improving productivity and quality of production. Retrofit automation by way of introducing micro electronic related innovations and other information technology products to textile units in the decentralised sector in particular, would be helpful for the growth of the sector. Moreover, there is an urgent need to introduce IT in manufacturing and design process as well as fashion intelligence and trade response.

The Task Force has been asked to suggest measures for: (a) appropriate use of micro processor base equipment, control systems and related technologies in different stages of manufacturing processes in textiles for production, planning, quality and cost control as well as sales and inventory management; (b) utilisation of computer integrated technology for on-line development of designs and colour shades and facilitating quicker conversion of laboratory scale formulation to production scale operations; (c) utilisation of Internet/ISDN links and other media for presentation of textile products to select buyers and markets with a view to promote their sales; and (d) Application of electronic information gathering system for building global data base on all aspects of textiles sector.

8.4.8. National Institute of Fashion Technology (NIFT):

NIFT was established in collaboration with the Fashion Institute of Technology (FIT), New York. The genesis of NIFT was in the idea of an apex institution to cater to the growing needs of India's evolving fashion industry. Over the years, NIFT has emerged as the premier training institute in India nurturing and creating bright professionals in different areas of fashion technology, meeting the Human Resource requirements of this vital industry. Its high level of interaction and collaboration with the leading fashion institutions of the world has enhanced the stature and scope for the fashion industry in India to meet the challenges of the industrial competitiveness on a global plane.

8.4.9. Apparel Export Promotion Council (AEPC):

The prime object of AEPC is to promote and regulate the growth of Readymade Garments. AEPC undertakes several programs to study the market and provides access to vital trade news and information.

8.4.10. Trade Delegations

AEPC organises Trade Delegations to establish fruitful trade relationships. This depends on the specific needs of the country and the Council's capability to meet those requirements.

8.4.11. Resource Center

The Information cum Resource Center at AEPC's Registered Office passes on vital trade news for promoting exports of readymade garments. This information pool disseminates the following information

- a) Statistics
- b) Import regulations
- c) Information on buyers
- d) Joint ventures
- e) Market intelligence about various countries
- f) Raw material suppliers
- g) Fashion forecasts and trends information
- h) Overseas fashion publications
- i) Reports on the various aspects of the Garment Industry

To focus on the needs of foreign buyers, the Council subscribes to foreign fashion magazines and informative journals on fashion trends, colours, etc. All the regional offices of AEPC maintain Libraries with an adequate foreign supply of fashion magazines.

8.5. China - The Textile & Apparel Giant

8.5.1. Introduction:

China is the largest exporter of textiles and garments in the world, with 20% of total world trade. The Chinese garment industry has grown at an average of 17.7 percent per year for the past two decades. Garment output in 1998 reached 9.7 billion pieces, 18 times the 1978 figure. Rapid growth in domestic garment sales reflects tremendous diversification and improvement in Chinese people's clothing.

There have been a lot of structural changes in overall Chinese economy, which have also affected Chinese textile industry. The Asian currency crisis was yet another reason that forced several changes in the fundamentals of Chinese textile industry. In the first five months of 1999, textile exports (excluding garments) were down by 8.5% to US\$4.94 billion compared to the 1st quarter of 1998. Garment and accessories exports have decreased by 27.2% in the same period to US\$8.86 billion. Exports to the United States have nevertheless grown by 10.32% in the first quarter of 1998.

8.5.2. Industry Structure:

The Chinese apparel industry is becoming more quality-oriented and is beginning to produce higher-valued goods, particularly in those operations being guided by producers in Hong Kong.

China over the last many years has been benefiting from the exports to Hong Kong. Hong Kong used to serve as a major routing station for most of the exports from China mainland. In 1999 China's exports have suffered from the fall of orders coming from Hong Kong. Exports of garments to the S.A.R were down 56.94% in the first quarter to US\$1.8 Billion.

Chinese Government has religiously followed a spindle elimination policy to upgrade existing technological base. The move has given positive results. Due to these restructuring plans, added value of textile companies has grown by 14%.

Chinese factories have suffered from the devaluation of Asian competitors' currencies. Imports of apparels from ASEAN grew by 12.61 % in the first quarter of 1999, to reach US\$ 2,772 millions. The same is true for Korean apparels (+ 21.64 percent, US\$ 21.64 millions). The "Made in Hong Kong" apparels increased surprisingly by 28.38 percent (US\$ 1,875 millions).

China's large-scale tariff cutbacks have paved the way for foreign garment companies to expand their business in China. After the tariff on garment imports was reduced to 40 per cent in 1995, another cutback at the end of 1997 pushed the tariff level for textiles and garment down to 30 per cent. With the advancement of the negotiations on China's entry into the World Trade Organisation (WTO), the tariff on textiles and garments imports is expected to reduce to below 15 per cent.

As Chinese per capita income has grown over the past decade, foreign garment companies have found a rapidly expanding market for their products. Emerging early in the 1990s, registered fashion designers in China have surpassed 7,000 in number. Fashion shows and clothes fairs are regularly held in the major cities. **But China's garment industry is practically devoid of high value-added products. Almost no brand names are registered in the international market.**

Interestingly, a new look-east trend has sprung up among Western designers. World renown Italian and French designers such as Yves Saint Laurent, Valentino Garavani and Jean Paul Gaultier have introduced a series of suits with a strong flavour of Chinese clothing

8.5.3. Foreign Investment:

China has benefited a lot from foreign investment and partnerships with established foreign textile and garment manufacturers most notably from Japan and Hong Kong based entrepreneurs, who want to take the advantage of cheap labour on the one hand and huge Chinese domestic market on the other. In 1998, foreign capital used amounted to \$58.9 billion (down 7.9%) of which the amount of actual foreign direct investment stood at \$45.6 billion (up 0.07 %), and the amount of foreign loan reached \$11 billion (down 8.5%).

In just 1998, 19,799 foreign invested enterprises (all sectors) were set up and given the economic conditions prevailing in the region these indeed show the confidence of international investors in the policies and economic fundamentals of China. By the end of 1998, the total number of approved foreign invested enterprises had reached 3,24,620.

8.5.4. Transformation from Planned to Market Economy:

Reforming state-owned enterprises (SOEs) poses a challenge to the governments in formerly centrally planned economies. In China, while almost all other aspects of the economic reform (including price management, commodity and factor markets, taxation, investment financing, trade regime, foreign exchange system, etc.) have achieved significant progress over the past decade and a half, the chronic performance problem of SOEs remains the government's biggest headache. Chinese textile and apparel industry however is relatively quick to respond to the demands of free market economy.

A brief summary of major shifts observed in this specific industry are listed below:

- a) Chinese apparel industry is one of the first economic sectors to transit from planned economy to market economy. The production in the industry is no longer organised according to state plans, but according to market demands.
- b) Transformation from state-ownership to complementary multi-ownership. In terms of output value, the portion contributed by state-owned enterprises to the textile industry's total output has decreased from 75% to less than 30%.
- c) Transformation from high-speed growth to stable growth. In 1980s and early 1990s the industry experienced high-speed growth, making China the largest exporter in the world. Since mid 1990s, the growth began to slow down substantially, and the industry entered a stable development period.
- d) Transformation from focusing on expansion of output to focusing on improvement of quality and performance. Now the entrepreneurs in China apparel industry focus on growth of profits, not of output; on management of capitals and brands, not only on management of products; on exploring internal potentials and cost effectiveness, not expanding production capacity.
- e) Transformation from internal demand oriented to export oriented.
- f)** Transformation from resource and labour intensive to capital, technology and knowledge intensive.

8.5.5. Market Mix:

Europe and USA have been the traditional markets of Chinese exports and top the list of buyers of textiles and garments. These are followed by Hong Kong and Macao. The decline in exports to the USA are accounted for by competition from Mexico and Southeast Asian countries who have become more competitive in the US market because of NAFTA agreement or devalued currencies.

Export trends in other countries / regions compared with 1997 are as follows: Southeast Asian countries - up 74.3%; Japan - up 32.1%; Taiwan - up 71.7%; Korea - up 31.7%; Latin America - up 12.4%; Gulf countries - up 15.7%; and Africa - up 8.8%.

8.5.6. China & WTO:

The accession of China to WTO is a hot issue with varying opinions coming from different interest groups. As trade talks about China's accessions to the W.T.O. are now resuming, the American Textile Manufactures Institute (A.T.M.I.) opportunely published a study on impact of a removal of U.S. quotas, as of 1 January 2005. China's exports to USA will triple to \$ 27.5 billion. Much of this increase would come at the expense of developing countries. Apparel imports from Mexico, Canada and the Caribbean countries would decline by \$3.8 billion. Excluding China, imports by other countries would decrease by \$8.9 billion. China's share of the U.S. apparel market could therefore grow by 18 percentage points, to more than 30 points, according to International Trade Commission (I.T.C) report. The U.S. textile and apparel industries could also be affected, with U.S. apparel producers and workers experiencing the more adverse effects after the end of the phase-out period.

8.5.7. Summary:

- a) China has been a favourite destination for Pakistani exporters of fabric and yarns. The decline of exports has lowered Pakistan's domestic demand for fabrics and yarns. Pakistan can enter into bilateral agreements with China to serve as a sourcing country for fabric to China's growing garment industry.
- b) China's accession to the W.T.O. would dramatically boost apparel exports especially to the United States. *Much of this increase would occur at the expense of other developing countries, including Pakistan.*

8.6. Mexico

8.6.1. Introduction:

Prior to the late 1980s, Mexico was a closed market with an underdeveloped apparel infrastructure. Mexican apparel manufacturers had no outside competition, and their products were high-priced and low quality. Apparel in stores was frequently old-fashioned compared to clothing found in Europe or the United States.

This situation changed drastically after an accelerated market opening that began in 1988 and continued until 1994, the year in which NAFTA was signed. During this time, new trade initiatives stimulated the apparel industry and set the stage for Mexico's rise to its current status as the United States' largest apparel supplier. In 1998, total apparel exports to the United States were US\$6.5 billion, according to U.S. Department of Commerce figures. Mexico's overall 1998 apparel exports to the United States accounted for 95 percent of the country's total apparel exports.

Since 1995, Mexican apparel industry employment has grown 71 percent. In the same period, the value of production has grown 17 percent and volume has grown 32 percent. There are now 12,965 apparel companies in the country.

8.6.2. Stages of Industry Development:

'**Assembly Production**', which peaked between 1994 and 1997, is the first of the three phases in Mexico's apparel industry evolution. In assembly production, the main thrust is on cutting to stitching (CMT) without any product designing, fabric finishing or finished product packaging. Because of the close geographical proximity with the U.S., fabric can be brought into Mexico and then finished product exported back to the U.S. with very short lead times. During this period manufacturers began to participate in global trade shows to expose their garments and exports increased 208 percent and total employment in assembly plants grew by 129 percent.

Phase two, '**Full Package**', began to gain serious momentum in 1998 and should continue until 2000. Mexican apparel companies have a full package advantage over firms in other Latin American countries because they have the possibility of getting materials inside Mexico or very near Mexico. Because of that they can compete on a different market level.

The advantages of turnkey apparel sourcing have been recognised by most U.S. firms looking to produce within NAFTA market. However, there is still concern over the learning curve associated with full package production in Mexico. Many of the Mexican manufacturers are new at full package and don't really understand how to price jobs. They know how to make a shirt or a pair of jeans, but they are not sure about things like labeling and polybagging

Because many Mexican manufacturers are not used to working with these and other aspects of production, it can be difficult and time consuming to produce price quotes, and many U.S. companies become frustrated. It can take days or weeks to get the price quotes back. In the meantime, the buyer has already placed the order with some company in the Far East.

Right now a lot of the Mexican companies are not prepared for full package. In Mexico you pay cash payroll every six days, which can put a drain on a company's capital resources. In Mexico, it is very easy to get in touch and speak with the government. And there are a lot of things the government is willing to give to make the industry succeed.

The number of Mexican full-package export plants will grow between 3 to 5 percent between 1998 and 2000. Additionally, employment within these plants will increase 10 percent, while overall full package exports will grow 20 percent to 25 percent.

8.6.3. 'Design and Production'

This phase of the Mexican apparel industry will begin with the new century. In this stage, design, production and management will take place in the region. Moreover, most materials will be bought in the region; the NAFTA free trade zones will operate at full potential with no tariffs and quotas. It is forecasted that apparel firms in Mexico will number between 13,000 and 13,700 in 2000. New companies will focus on high-end business and the average number of workers employed will be between 40 and 45.

8.6.4. Growth Potential:

The Mexican sewn products sector currently is drawing on a strong labour force that is growing at a rate of 1.3 million employees per year; only 43 percent of the total labour force is unionised and the average apparel worker is earning \$6 per day.

Mexico has a population of 94 million and is the 11th most populated country in the world. The gross domestic product per capita currently is US\$ 3,320 compared with approximately US\$24,000 in the United States, and while Mexico is still far behind the United States, the Mexican market for consumer products is growing at a healthy rate parallel to growth in the country's industrial sectors.

This creates an opportunity for U.S. manufacturers to look beyond just producing in Mexico. The consumption per capita of textile products in Mexico is 6 kilos (it's 24 kilos in the United States) and the potential for growth in apparel and home furnishings is huge.

8.6.5. Impact of NAFTA:

With entry into NAFTA on January 1, 1994, Mexico further lowered its tariffs on U.S. and Canadian origin goods. Mexican tariffs on U.S. goods are between zero and twenty percent ad valorem. Currently, more than 60 percent of U.S. goods enter Mexico duty-free. Under NAFTA, tariffs on U.S. goods will be phased out over a 10-year period. Mexico has also abolished its import licensing requirements for most U.S. origin goods.

The U.S. and Mexico also negotiated under the NAFTA preferential duty treatment for limited quantities of some non-originating textiles and apparel exported from the U.S. Mexico is obligated to administer the 'tariff preference level' and tariff rate quota system by distributing import quotas impartially among Mexican importers.

8.6.6. Conclusion:

The Mexican consumer market is becoming more powerful and appealing, the production base is growing at a staggering rate and apparel is one of the leading sectors for foreign investment and exports. The resounding message from U.S. manufacturers and contractors alike is that Mexico is a gold mine of opportunities for investment.

8.7. Hong Kong: Textile and Clothing

Hong Kong has developed itself into a hub of textile trade in the Asian countries. It serves the purpose of a one-stop shop for buyers around the world. The industry comprising of textiles as well as apparel (clothing) has emerged as a manufacturing force with steady growth. The number of establishments is around 3,000, which employs around 40,000 individuals. More than 50% of these enterprises are small scale factories with fewer than 20 employees. 40% can be categorised as medium-sized while the rest are large-scale manufacturing employing more than 100 persons each. The textile industry as a whole constitutes 7% of the exports and provides employment to 8% of the total manufacturing workforce.

The textile sector comprises of spinning, weaving, knitting and fabric finishing. The processing/finishing industry is the corner stone of Hong Kong's clothing industry. Almost one third of the total textile enterprises are associated with processing and finishing of fabrics. It for this reason that Hong Kong imports large greige fabric from Pakistan to add further value through processing. 70% of the local industry dyeing load is met by Hong Kong's bleaching, dyeing printing and finishing factories.

Table 8.7.1: Hong Kong Exports of Textiles and Clothing

Hong Kong Exports of Textiles and Clothing US \$ millions					
	1995	1996	1997	1998	1999
TEXTILE YARN	128	155	138	117	110
COTTON FABRICS, WOVEN	833	820	817	744	726
MAN-MADE WOVEN FABRICS	106	90	93	74	51
WOVEN TEXTILE FABRIC NES	67	58	42	28	25
KNIT/CROCHET FABRICS	437	445	377	264	160
TULLE/LACE/EMBR/TRIM ETC	116	108	95	93	94
SPECIAL YARNS/FABRICS	73	61	54	44	27
MADE-UP TEXTILE ARTICLES	50	31	16	25	30
MENS/BOYS WEAR, WOVEN	2,034	1,950	1,978	2,031	1,919
WOMEN/GIRL CLOTHING WVEN	2,482	2,358	2,374	2,463	2,472
MEN/BOY WEAR KNIT/CROCH	462	375	419	405	412
WOMEN/GIRL WEAR KNIT/CRO	1,200	1,063	1,226	1,304	1,325
ARTICLES OF APPAREL NES	2,942	2,826	2,929	3,002	2,915
CLOTHING ACCESSORIES	232	241	309	404	464
Total	11,163	10,581	10,868	10,998	10,729

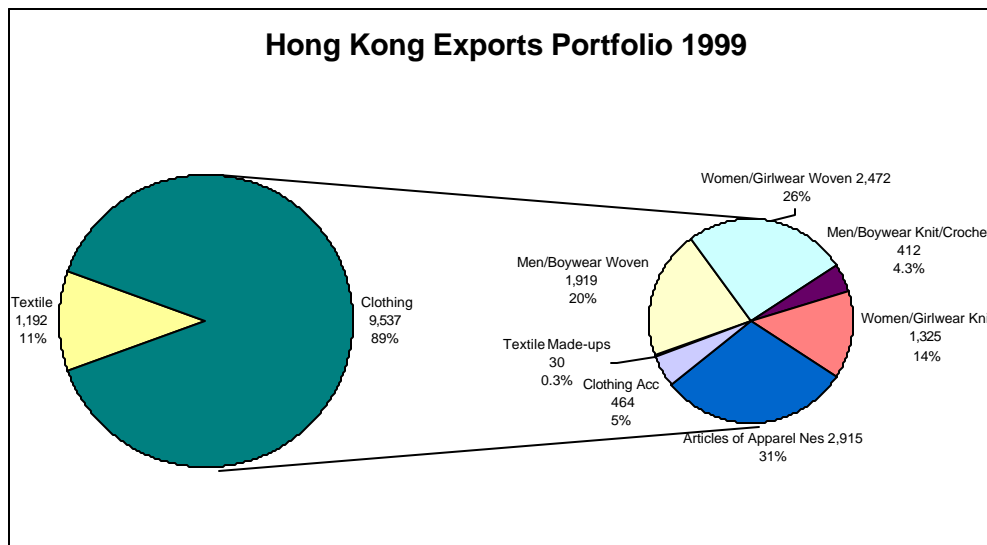
8.7.1. Exports of Textile & Clothing

The total exports of textiles and clothing are US \$ 10.7 billion. The strength of the textile industry of Hong Kong is its wide base of products offered to the global markets. Ranging from yarns to finished garments. The industry is very flexible to changing global trends, this feature of adaptability has enabled it to attain a position of center of excellence within the Asian competitors.

8.7.2. Product Portfolio of Exports

Around 89% of the total exports, US \$ 9.5 billion, are in the clothing segment. Textile products including yarns, fabrics, etc have a meagre share of 11% in the total export value. Within the clothing category 40% of the exports are in the women apparel, whereas the men's clothing constitutes only 24%. The textile made-ups section is the smallest with only 0.3% share in the total. The textile industry of Hong Kong has kept pace with the market requirements and fashion needs, which is critical to the success in women clothing sub-sector. The use of a wide range of fibres and high quality fabric finishes are driving agents in the industry growth. The leading fibres include plain/semi plain, neoprene, polar fleece, knits, jersey, stretch denim, pique and seer sucker in cotton and synthetic blends. High value added treatments like anti bacteria, anti Ultra Violet, non-iron, water repellence and easy care are some of the examples, which are widely featured in the textile products.

Figure 8.7.1: Hong Kong Export Product Mix



8.7.3. Sales and Marketing Channels

Hong Kong's textiles industry is well positioned to serve both the local and overseas clothing suppliers. The industry is well reputed as an industry of skills, expertise and flexibility. Its competitive edge lies in swift response to changes in fashion and market demand and consciousness towards good quality. It can produce a wide range of quality textile products either in bulk or in small lot size within a short lead-time. As a global sourcing hub in textiles and clothing, Hong Kong is an ideal one-stop shopping centre for buyers looking for new and trendy fabric materials.

8.7.4. Industry Trends

Owing to labour shortage, rising land costs and stringent environmental regulations, Hong Kong's textiles manufacturers moved their production facilities to the Chinese mainland and other Southeast Asian countries. More recently, a few companies are actively seeking for offshore production in factories around the world.

In face of fierce competition from other low-cost fibre production countries, the textiles industry is moving up-market to supply sophisticated merchandise with original designs. Meanwhile, seizing Hong Kong's advantage as a regional hub in Asia, headquarters in Hong Kong continue to shift towards higher value-added activities such as sales and marketing, quality control, designs and development, as well as sourcing of textile materials, leaving offshore sites focusing mainly on low value-added operations.

To maintain its competitiveness, the textiles industry invests heavily in capital-intensive and technologically advanced machinery. Modern machinery like open-end spinning machines and shuttleless looms have been widely adopted by manufacturers. Besides, the industry applies variously computer technology such as computer-aided design (CAD) and computer-aided manufacturing (CAM). The computerisation of the industry has enabled it to efficiently perform fashion designing and pattern making through which realistic simulation of surface colours and textures have been simplified. Another very vital segment in apparel manufacturing is the clothing accessories including high quality labels, buttons, zippers, etc. This segments contributes more than US \$ 400 million to the total export earnings of Hong Kong. The label industry is capable of delivering customised labels using an amazing array of materials, colours, tones and threads. Hong Kong is the largest supplier of these labels to the developing countries, even Pakistan imports these labels to meet the requirement of the apparel exports.

8.7.5. Trade Measures Affecting Exports of Textiles

Hong Kong's exports of textiles and apparel to major markets are currently governed by the Uruguay Round Agreement on Textiles and Clothing (ATC), Contracting parties of the ATC agreed to phase out in three stages their quantitative restrictions on textiles and clothing during a 10-year period starting in January 1995. The year 1998 marked the beginning of the second stage of the ATC phase-out, but its impact is not expected to be significant since none of the liberalised categories are leading exports of Hong Kong. As of January 1998, the US abolished quantitative restrictions on 23 Hong Kong textiles and clothing categories, Canada abolished quotas on two categories and the EU on four.

Nevertheless, the Asian financial crisis and its contagious impacts on Latin America have resulted in the recent proliferation of protectionism in a few troubled economies. In particular, several Central and South American countries have lately mounted various trade barriers against imports of textile products, such as pre-shipment inspection and an increase in import duties in Argentina, prior-to-import notification in Mexico, and import duty surcharges in Venezuela.

Beyond the changes in trade policies, Hong Kong faces challenges from the regulatory environment overseas. For the EU market, national bans on azo-dyes have been in place for years in Austria, Germany and the Netherlands. The EU has recently proposed a community-wide prohibition of azo-dyestuffs but its implementation is not expected to materialise soon.

Textiles exports to the US continue to be affected by trade disputes over illegal transshipments. Meanwhile, Hong Kong's exports are also being affected by recent changes in US import regulations, including the implementation of new rules of origin and additional import documentation requirements for selected Hong Kong clothing products.

9. Human Resource in the Textile Industry

Human capital formation for the textile industry development is the most critical area of intervention. In order to achieve high degree of value addition through making the apparel and textile made-ups sector the engine of exports growth, focus has to be laid on structured training programmes with the objective to ensure a consistent supply of well equipped manpower.

9.1. Current Status of Human Resource

Work force in the textile industry can broadly be classified into four main tiers, unskilled labour, skilled labour, operators and supervisors and the middle level management including production and operations managers. According to estimates the textile industry as a whole provides employment to around 1.4 million individuals, constituting around 40% of the employment of manufacturing sector in Pakistan. The sector-wise employment estimates are slightly under estimated due to the reason that a number of process vendors are also associated with the textile industry. Actual number of employment will be within the range of 1.4 million to 1.6 million. A greater portion of the employment is generated by the stitching segment, which constitutes almost 55% of the total employment and rightly so as this is the most labour intensive process in the whole textile value chain.

Figure 9.1.1: Employment in Textiles

Employment in the Textile Sector	
Textile Sub-sector	No of Persons Employed
Stitching	734,805
Processing and Finishing	61,206
Knitting	47,221
Weaving	294,213
Spinning	201,152
Total	1,338,597

9.2. Importance of Labour Skills in Textiles

The skill requirement varies from sector to sector in the textile industry depending upon the nature of the technical process and the level of complexity involved. Usually the role of supervisors and operators is of critical importance in the capital intensive sub-sectors like spinning, knitting, shuttle-less weaving and processing, whereas the skilled labour has a pivotal role in labour intensive processes like stitching and power-loom weaving.

9.3. Importance of Middle Level Management

The middle level management not only contributes to the production efficiencies but is also responsible to formulate and implement marketing, sales and distribution plans and strategies that ensure a constant stream of cash flows for an organization. Generally the middle level management has a dual responsibility by acting as an interface between the top management and labour force and also between the organization and the markets. The textile sector of Pakistan has traditionally focused on developing a breed of managers, which effectively manages the production operations but lack marketing skills.

9.4. Sectoral Manpower Requirements

Diversity in technology and the nature of textile sub-sectors demands specialized sets of skills in the work force. Each sub-sector has its own issues and requirements of human resource development.

9.4.1. Spinning Industry

Spinning is a capital-intensive process; a project costing Rs. 350 million or more employs around 500 persons. Mostly the spinning sector labour force is trained through the process of on the job training. The floor supervisors serving as 'Ustaads' hire apprentices, who get trained in their respective discipline. Although the spinning industry does not rely on the training institutes to meet their labour force requirements, but the process managers in different sections are qualified professionals, mostly degree holders in textile engineering with specialization in the spinning industry. With the increasing competition in global markets success of the spinning industry is dependent on its capability to adopt modern processes to improve product mix by shifting to higher count yarns and adding further value through use of modern processes. This would definitely require better-equipped labour force capable of handling these processes, simultaneously the managers will also have to undergo skill enhancement processes to meet the upcoming challenges.

9.4.2. Weaving Industry

Weaving industry in Pakistan can be divided in two segments based on the level of technology. The power loom sector is the labour intensive sector where again the machine operators get on the job training through the Ustaad-Shagird system. Middle level management is non-existent in this segment, the entrepreneur himself is the manager. The machine operators in this segment do not obtain any formal training. The other sector comprises of shuttle-less weaving machines, this capital intensive process segment also does not rely on the formal institutions for the provision of manpower. Some of these units have supervisors trained at vocational institutes and the floor managers are textile professionals. Recent developments in the weaving technology demands the operators and managers to be familiar with electronic gadgets attached to high speed machines including CAM (Computer Aided Manufacturing). Skill enhancement would require increased usage of computer based systems to monitor and manage productivity and quality.

9.4.3. Knitting Industry

The human resource training and development in knitting Industry is very similar to that in weaving industry. The labour force is dominated by the individuals without any formal training. Due to the small size of operations, supervisors usually serve as floor managers.

9.4.4. Dyeing and Finishing

On the basis of technology dyeing industry can also be classified into two categories, one using old techniques of winch dyeing and the other one using state of the art continuous dyeing process. In both the industrial segments skills and expertise are of crucial importance. In the developed countries dyeing process is carried out under the supervision of dyeing experts who have received proper training and solid understanding of a diverse range of disciplines including chemistry, fibers and mechanical engineering.

The unlimited number of variables involved in dyeing can only be controlled from a solid knowledge base acquired through academic and practical rigour. On the contrary in Pakistan the dyeing process is managed by dyeing masters who have simply acquired the skills by working in a dyeing facility. These dyeing masters through their experience operate on hit and trial basis without employing scientific methods. The new trends and modern developments particularly new finishing processes which require special treatments to fabrics and value addition, can only be successfully adopted through imparting training to existing manpower. Immediate training needs can be fulfilled by creating awareness among the industry and training of the existing workforce comprising of the dyeing masters.

9.4.5. Stitching (Apparel Sector)

The highest value addition in the textile sector can only be achieved through a rapid development of manpower, equipped with the requisite skills to enable the country compete in international markets. Three major areas that would require organized training in the apparel sector include:

9.4.5.1. Apparel Designing

The apparel sector of Pakistan has relied on re-active marketing of its products. Due to the lack of training facilities and skills to indigenously design apparel products the industry has not been pro-active in marketing its products internationally. Such a strategy leaves a large part of the international garment markets untapped and also inaccessible by the local manufacturers. Only formal training in garment designing in line with the fashion trends will enable the apparel sector to realize its full potential.

9.4.5.2. Apparel Stitching

Since the stitching of garments is labour intensive process the productivity has a strong correlation with the skill and efficiency of the worker. It has been estimated that the productivity of Pakistani stitching worker is less than that of Bangladesh, Indonesia and China. To compete with these countries in the global markets, the apparel industry will require training to employ efficient methods of production through worker skill enhancement, wastage reduction and consistency in quality.

9.4.5.3. Merchandising and Marketing

The success of an apparel unit is dependent upon the strength of its merchandising and marketing team. The progressive manufacturers and exporters use the services of business graduates to achieve this end. Most of them have to go through on the job-training programme for developing basic understanding about the textiles. There is need to develop human resource equipped with business skills and basic knowledge of textiles so as to enable them formulate export marketing plans by taking into consideration the global consumption and demand patterns.

9.5. Existing Training Support Network

There are a number of institutes which provide training in the field of textiles. The training programmes of these institutes range from 4-year degree courses to short diploma/certificate programmes. Most of these institutes are sponsored by the Government through the Export Development Fund. These institutes have been established through the collaboration of the Government with the textile industry association. Besides these institutes the public sector vocational training institutes also cater to the of skill development needs of the textile industry.

9.5.1. National College of Textile Engineering Faisalabad

The National of Textile Engineering is the oldest degree-awarding institute in the field of textiles established in the early 1960s. The institution is affiliated with the University of Engineering and Technology Lahore. To date the institute has produced over 1500 textile professionals with their presence in 80% of the textile industry in Pakistan.

9.5.1.1. Scope of Studies and Facilities

The institute grants textile-engineering degrees in with specialization in spinning, weaving and textile chemistry. Initially the equipment for technical training was supplied by the Govt. of United Kingdom, but later in 1992 latest equipment was inducted in the college with the help of the Japanese Government. Besides equipment for training needs, a modern testing laboratory also serves as a common facility to the industry. The equipment installed at the institutes includes some of the state of the art machines. The spinning section has a clean-o-matic blow room, carding machines, drawing and simplex frames, auto cone winders and yarn fault classifying system. The weaving section of the institute also has a number of conventional looms and projectile (shuttle-less) looms with a few modern air-jet looms. Besides weaving equipment the section also has a broad range of knitting equipment. The processing (textile chemistry) department is equipped with exhaust dyeing and continuous dyeing machines including pad steam and pad thermosol.

Apart from the degree courses the institute also runs short diploma courses including areas like fashion designing, textile chemistry and spinning. The short-term certificate courses are related to subjects like

technician training, weaver training, knitwear training and a number of refresher courses for technical personnel.

Although the students have received training on modern equipment, most of the institute's graduates serve in the spinning and weaving sub-sectors of the industry. The processing (dyeing, printing and finishing) industry is still dominated by dyeing masters who have not received formal training in the field.

Furthermore the training institute focuses its training on cotton-based yarns and fabrics, whereas the changing international trends require the textile professional to have apt knowledge of synthetic and artificial filaments, and their weaving/knitting and processing. The students of this institute should simultaneously be provided basic knowledge of business sciences including business management, marketing and market research and quality management.

9.5.2. Textile Institute of Pakistan (TIP), Karachi

TIP was established in 1994 by a group of leading textile industrialists and members of the All Pakistan Textile Mills Association (APTMA). The institute has been granted a degree awarding status by the Government of Sind. The institute enrolls students for a two-year Associate Degree in textile technology and also for a four-year curriculum leading to Bachelor's degree in textile science, textile management or textile designs technology.

9.5.2.1. Scope of Training

The Associate Degree in textile technology, a two year programme, provides basic training in overall operations of a textile plant, from raw fibers to finished products, The theoretical curriculum includes spinning, weaving, machinery, fabric analysis and dyeing & finishing. A 3-month attachment for observing actual textile operations in a facility is also mandatory for each student.

The B.Sc. (hons) programme of the institute comprises of four-year course work with specialization in textile science, textile management or textile design technology. The purpose of including business sciences in the curriculum was to put greater emphasis on enhanced productivity and quality, in order to make the textile sector more competitive in the global market place. Subjects like export marketing, corporate finance, economics, operations and strategic management are also taught to serve this purpose.

The trained professionals of TIP are inducted at the middle level management positions in the industry which include weaving, spinning, processing, apparel manufacturing and buying houses. The institute is likely to fill the vacuum of trained marketers and quality management professionals in the industry. Since the business focus of the institute is one its core strengths, it places it in an ideal position to initiate executive development programmes on diverse textile topics. This would provide the existing senior managers in the industry with an opportunity to develop understanding about the modern developments and would also inculcate a culture of continuous learning.

9.5.3. Department of Textile Engineering, National University of Engineering & Technology, Karachi.

The first batch of 35 students was admitted in the four-year textile degree programme of the university. Due to the lack of training infrastructure the focus of the programme is on theoretical aspects of spinning and processing sector. A greater part of the curriculum deals with the scientific, technological and engineering principles of designs and controls of the above mentioned processes. Resource constraint has impeded the expansion of academic as well as training facilities for the students. It would be too soon to comment on the quality of training as the first batch is expected to graduate in the year 2001. The project is still in its formulative stage, as it needs to broaden the areas of training and re-align the course work in accordance with the current and future industry requirements. To achieve this end the department through

development of in-house training facilities should reduce its dependence upon other institutes. The Government should provide all possible support for the development of such initiatives.

9.5.4. Pakistan School of Fashion Design, Lahore

The school of fashion design was established by the Export Promotion Bureau (EPB) in 1994 to impart training in all aspects of fashion design related to draping, sewing, pattern making, computer aided design (CAD), fashion drawing, history of fashion and textile design. The school offers four-year degree course with an annual enrolment capacity 30 students. The school is affiliated with *La Chambre Syndicale de la Couture Parisienne* (French Federation of Designers).

The increasing global competition in the field of apparel manufacturing and marketing as a result of upcoming changes in the international scenario like implementation of ATC (Agreement on Textiles), requires the local apparel industry to gear itself to improve quality of the fashion garments and accessories. In apparel quality is not only limited to the physical quality parameters, but it is extended to include the quality of garment design. The high rate of growth in the international clothing markets makes it inevitable for Pakistan to further increase human resource investment in the field of garments and fashion design. The existing number of 30 to 40 graduates per year is too low to achieve a quantum leap in apparel exports through capturing medium to high-end markets. Moreover, to cater to the immediate needs of the apparel industry, as a short-term measure the School can also start certificate courses in textile designing, depending upon the availability of resources and market response.

9.5.5. Towel Manufacturers Association Textile Institute, Karachi

This institute was established jointly by the Towel Manufacturers Association and the Export Promotion Bureau (EPB). The institute focuses training in weaving and processing of towels and allied products. The institute currently offers two degree programmes in the field of weaving technology and wet processing technology. The duration of both the degree courses is two years, each. Although the curriculum has all the important theoretical components but the facilities are not in accordance with the industry requirements. For practical training in weaving obsolete technology power looms are used similarly the students of the wet processing programme are not exposed to the modern processing and finishing equipment. To properly contribute in the human resource development for the textile industry, existing equipment and facilities at the institute need to be up-graded.

9.5.6. Pakistan Ready Made Garments Technical Training Institute, Karachi

The institute plays an important role in developing human resource for the apparel sector of Karachi. The institute currently provides short training courses in the field of industrial sewing, computerised pattern generation, inventory control and material management, production improvement techniques, pattern cutting, quality control and marketing and merchandising in apparel. The duration of these courses varies from three to sixteen weeks depending upon the nature and complexity of the subject. Such institutes play a crucial role in a structured skill development and skill enhancement of the industrial workforce. Steps should be taken to establish similar institutes in other cities so as to facilitate the industry through provision of skilled manpower. In order to achieve widespread growth in apparel sector there is a need to setup stitching training facilities on top priority basis, which as compared to other sectors requires a lesser degree of capital investment.

9.5.7. Government Weaving and Finishing Institute, Shohdara

The institute is one of the oldest training facilities in the country, which was established in 1922. The institute offers diploma programmes in weaving, dyeing and finishing technologies with the intake capacity of more than 250 students. The workforce trained at the institute gets absorbed in the textile industry at supervisory cadres. The weaving section is equipped with 120 shuttle-looms. Training on these machines prohibits the exposure of the students on high speed weaving equipment that is nowadays used in the industry. The knowledge base of the student is thus limited to low-density and low speed textile weaving and thus they are unable to meet the industry needs. The processing section is installed with comparatively

new equipment such as jiggers, merceriser and stenter, which enables the student to have a good experience of handling complex finishing process. The other equipment in this section is obsolete.

The up-gradation needs of the institute can be met through the installation of modern shuttle-less weaving machines and modernisation of the processing section by inducting lab scale equipment for training purposes. In addition to training industrial manpower, the facility also serves as a production centre for Government hospitals and departments through fulfilling their needs of cotton fabric. The processing section works as a common facility for the industry in bleaching, dyeing and finishing of fabrics. The institute has contributed significantly in disseminating dyeing and finishing know-how in the textile industry, further support will definitely lead to improved availability of dyeing professionals in the country.

9.5.8. Other Institutes

A number of vocational training facilities have also been established to provide textile related training, these include Government College of Technology, Karachi and the Government College of Technology, Multan. These institutes offer diploma programmes in textile engineering. The training facilities of these institutes are in no better shape than those of the institutes previously mentioned.

9.6. Major Issues in Human Resource Development

9.6.1. Lack of Skill Development Facilities

As mentioned previously, the labour force receives on-the-job training in almost all the sub-sectors. A number of institutes have been established which cater to the industrial requirement for middle level management. There is however a huge shortage of facilities to enhance labour skills and produce competent supervisors who have in-depth knowledge of processes and hands-on experience. The existing institutions, which are involved in such training programmes, are in dire need of restructuring to up-date their syllabus and upgrade the training equipment.

9.6.2. Standard of Training

The textile industrialists believe that the standard of the training programmes carried out by these institutions are not commensurate with the requirements of the industry. The reason for this is lack of coordination between the institutes and the industry. The success of such institutes depends upon constant interaction and an effective feedback mechanism between the two. It is for this reason that most of the public sector initiatives established in isolation from the industry have been unable to deliver.

9.6.3. Lack of a Training Culture

The industrialists consider training as an unnecessary expenditure on their workforce, which ultimately causes problems for them to retain their labour and managers. Hardly any textile industrialist in Pakistan invests in training of its human resource. Lack of good quality training facilities in the country also provides the industrialist with an additional excuse not to invest in human resource development.

9.6.4. Absence of a Quality Assurance System

There is no system to evaluate the performance of the training institutes in the country. There exists wide discrepancy in quality of education provided by different institutions, even in the same subject. Absence of a quality assurance mechanism is the main cause of deteriorating education standard of a majority of textile institutes.

9.6.5. Role of Industry Associations

The Export Promotion Bureau has established some training facilities in collaboration with the industry association. The Funds for such projects are provided from the Export Development Fund (EDF), which is collected as a cess from the exporters. However the decision on establishing new institutes should strictly

be based on an in-depth training need analysis of the industry as some of the associations stress upon the Government to establish these institutions without a need.

9.6.6. Training of Trainers

It is important to mention here that bringing in new equipment in these institutes is not the sole solution to the problem since it is likely to have significant effect on the human resource development for the textiles industry. These institutes need overhauling of all the major areas, most important of which is the training of the trainers, which has been ignored through out the evolution of the textile industry. The academia in the institutes should be trained and familiarized with modern methods of education. It would not be incorrect to say that the trainers are required to brush-up their knowledge so as to keep abreast of the modern developments in their respective disciplines.

10. Regulatory Framework

The industrial sector as a whole seems to be dissatisfied with the existing regulatory environment in the country. Their major concerns are the wide array of Government levies and the mechanics of collection involved. Almost all the governments in the past, instead of broadening their tax base resorted to increase their revenues through further taxation of the existing taxpayers, this policy has created resentment especially in the business community on the issue of taxation.

The regulatory framework for the textile sector is not very different from other industrial sectors, except for the fact that a large proportion of textile industry's production is exported, which enables this sector to avail certain concessions, offered by the government for export promotion.

10.1. Tax Structure

Tax structure Pakistan comprises of direct as well as indirect taxes. A few details regarding the tax rates and the mechanics of tax collection are mentioned below.

10.1.1. Income Tax

Income Tax is generally recognised as a highly equitable form of taxation. Income Tax is a direct tax based on the quantum of income earned by a taxpayer during an income year. Income tax is calculated by offsetting legal expenses against gross receipts. Tax rates and method of calculating taxable income varies with fiscal status of the taxpayer. The textile industry is also liable to pay tax on income according to the status of the entity. Since quite a large number of textile units are public limited concerns, the rate of income tax applicable is 33%. In case of the formal sector private limited company the rate of tax is 43%.

Table 10.1.1: Tax Rates for Companies: Assessment Year 1999-2000

Company Type	Tax Rates 1999-2000
Public company	33%
Banking company	58%
Other company	43%

Source: CBR

10.1.2. Turnover Tax

The exporters of textile products are allowed to pay a fixed percentage of their total turnover as income tax. The rate of this tax varies from 0.5% to 1% depending upon the extent of value addition by the firm. An exporter in-order to avail this facility of turnover tax should export a minimum 80 % of his total annual production. A large majority of textile industrialists benefit from this incentive, as huge volumes of domestic production are exported.

10.1.3. Wealth Tax

Textile firms are also liable to pay definite amount, depending upon the accumulation of wealth, as wealth tax to the Government. The current Government in a recent move to reduce the burden of taxes has abolished this particular tax with effect from July 1, 2000. The rate of wealth tax are mentioned in Table 10.1.1 : Wealth Tax.

Table 10.1.1 : Wealth Tax

Net Wealth	Rate
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On the first Rs. 1,000,000	Nil
On the next Rs. 500,000	0.50%
On the next Rs. 500,000	1.00%
On the next Rs. 500,000	1.50%
On the next Rs. 500,000	2.00%
On the balance	2.50%

Source: CBR

10.1.4. Worker's Welfare Fund

The workers welfare fund is levied on the income of a firm exceeding Rs. 200,000. The rate of deduction is 2% per annum, this is another direct tax which is levied on the income of an enterprise.

10.1.5. Sales Tax

The most controversial of all the taxes in the existing tax structure is the sales tax. It is exactly the same tax as the Value Added Tax in Europe. It is a multi-stage tax and is applicable at all the stages of production, which makes its collection difficult in case of industries with widespread sub-contracting. The sales tax, incase of exports is refunded to the exporters. The current rate of sales tax incase of registered firms is 15%, whereas, incase of unregistered entities the rate is 18%.

The issue of concern for the industry is regarding sales tax refund, which involves cumbersome procedures in filing refund claims and the delays on the part of the Government to process them. According to entrepreneurs this also causes cash flow problems for them.

10.1.6. Export Development Fund

All the exporters are liable to pay 0.25% of the total export value as a contribution to Export Development Fund (EDF). The fund is collected and utilised for development expenditure on various sectors. Through this fund EPB has established a number of training institutes. Participation of exporters in different international events is also sponsored through this fund. The industrialists feel that the development of export oriented sectors through EDF should be on the basis of their contribution in the fund. The textile sector being the major contributor should get maximum development funds based on this criteria.

10.1.7. Import Duties

Textile sector in Pakistan, besides consuming indigenous inputs also imports large quantities of raw materials and intermediate products for its consumption. The Government has levied custom duties on the import of these inputs. These duties are imposed on the basis of cascading principle, according to which basic raw materials have the lowest rates of duties. The rates of duties on raw materials intermediate products and finished goods, is 15%, 25% and 35% respectively. The rates of duties imposed on various textile inputs across the textile value chain are given in the Annex. I. It is important to mention that in addition to import duties the sales tax at the rate of 15% is also imposed on the imports of almost all the products.

Import duties serve dual purpose for the government, firstly they are used to protect the domestic industry and secondly contribute to the revenue of the Government. In case of a few sectors the basic cascading principle is neglected to provide protection to the domestic industry. The downside of these duties is that they tend to destroy the competitive advantage of the industry, which uses them as their major inputs. This is particularly true for the staple fiber and filament yarn industry the import duty ranges from 25 to 35% , the details of which have been discussed in the weaving and spinning section of the report. The negative impact for the textile industry is reflected in the low growth of the synthetic fabric/garments sub-sectors.

10.2. Tariff Structure of Competing Countries

As mentioned in the table that India has high tariff rates on different textile related items. In spite of such high import duties, the textile industry in India does not face too many problems in importing inputs. The main reason for this is that the Indian government has granted EOU (Export Oriented Units) status to the exporting firms that are allowed to import inputs without any hassle. Because of such scheme(s) the Indian textile products have developed a sustainable competitive advantage in the international markets. Although NDND scheme is also available to exporters in Pakistan, for duty free imports of raw materials and inputs, but these schemes have failed to play a significant role for the reasons mentioned earlier. In all other competing countries, various similar incentive packages happen to work smoothly.

Table 10.2.1: Comparison of Tariff Structure (Textile Products) Pakistan Vs Competing Countries

Country	Cotton Yarn H.S. No. 52.05 to 2.07	Blended Yarn	Woven Cotton Fabric(Blended)	Grey Cloth H.S. No. 5208.11 to 5208.19	Knitted Cotton Fabric	Knitted Cotton Fabric (Blended)
Pakistan	Custom Duty 10% ad value Sales Tax 15% Income Tax 5%	Custom Duty 25-35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%
China	Custom Duty 40% VAT 13%	Custom Duty 40% VAT 13%	Custom Duty 90% VAT 13%		Custom Duty 70% VAT 13%	Custom Duty 130% VAT 13%
Bangladesh	Import Duty 7.5%			Import Duty 40%	Import Duty 45%	
India	Basic Duty 25%+1%(Cess) Special Duty 2% Additional Duty 5% (Textile and Textile Articles)	Basic Duty 0%+1%(Cess) Special Duty 2% Additional Duty 18% (Textile and Textile Articles)	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty: Nil Grey Fabric: Processed Fabric: Basic Excise + GSI(Addl duty) 12% + 8%	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty Nil	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty: Nil	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty: 12% + 8%
Indonesia	Import Duty 10% VAT 10%			Custom Duty 15% VAT 10%		
Malaysia	Import Duty 10% CEPT 7 to 9%			Import Duty 20% Sales Tax 10% CEPT 16%		
Thailand	Import Duty 10%	Import Duty 10%	Import Duty 20% Bath/Unit 15	Import Duty 20% Bath/Unit 15	Import Duty 20% Bath/Unit 15	Import Duty 20% Bath/Unit 15
Sri Lanka	Import Duty 10% Nat Sec. Levy 4.5%	Import Duty 10% T. 10% Nat Sec. Levy 4.5%	Import Duty 35% T. 10% Nat Sec. Levy 4.5%	Import Duty: 10% for < 100 gm/m2 35% for > 100 gm/m2 T.T. 10% Nat Sec. Levy 4.5%	Import Duty 35% T. 10% Nat Sec. Levy 4.5%	Import Duty 35% T. 10% Nat Sec. Levy 4.5%

Table 10.2.1: Comparison of Tariff Structure (Textile Products) Pakistan Vs Competing Countries

Country	Bleached Dyed and Printed Fabrics	Denim H. S. No. 5209.42	Garments Cotton Knitted	Garments Cotton Woven	Accessories/Sundries
Pakistan	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%	Custom Duty 35% ad value Sales Tax 15% Income Tax 5%
China	Custom Duty 70% VAT 13%		Custom Duty 90% VAT 13%	Custom Duty 90% VAT 13%	
Bangladesh		Import Duty 40%			Import Duty 45%
India	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty: Excise + GSI(Addl duty) 12% + 8%	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty: Grey Fabric: Fabric: GSI(Addl duty) 12% + 8%	Basic Duty 40% Special Duty 2% Additional Duty:	Basic Duty 40% Special Duty 2% Additional Duty:	Basic Duty 40%+1%(Cess) Special Duty 2% Additional Duty 15% Additional Excise 15% (Textile and Textile Articles)
Indonesia	Custom Duty 20% VAT 10%	Custom Duty 20% VAT 10%			
Malaysia	Import Duty 20% Tax 10% Sales CEPT 16%				
Thailand	Import Duty 20% Bath/Unit 15	Import Duty 20% Bath/Unit 15	Import Duty 30%	Import Duty 30%	Import Duty 30 %
Sri Lanka	Import Duty: for < 100 gm/m2 100 gm/m2 Nat Sec. Levy 4.5%	Import Duty 10% Nat Sec. Levy 4.5%	Import Duty 35% 20% 4.5%	T. T. Nat Sec. Levy 20% 4.5%	Import Duty 35% Nat Sec. Levy 4.5%

10.3. Sector Wise Analysis on the basis of Special Provisions under certain SROs

For all the major sub-sectors of textiles across the value chain, certain regulations and provisions have been introduced from time to time through different SROs. A brief summary of all such regulations, which effects the textile industry in any respect, is given in Annex. II. Hereunder is a detail of import duties applicable on major textile sectors and an analysis of certain provisions given under different SROs.

10.3.1. Cotton

- For cotton growers, the agricultural implements manufactured locally are exempt from Sales Tax (under SRO 753(I)/98).
- The import duty is 25% on imported machinery. Under SRO 26(I)/96 machinery imported for agro-based industries is exempted from import duties in excess of 10% and whole of sales tax (SRO27/98).
- Import duty on cottonseed is 10% and Sales Tax is 15% on import and supply.
- There is no import duty on cotton that is not carded or combed, however cotton carded or combed is subject to 10% import duty. Cotton waste is subject to 35% import duty. Sales Tax on the above items is 15% on import and 15% on supply.
- Export of cotton has been subject to quantitative restrictions from time to time. But under the latest trade policy it has now been decided to allow export of cotton without any restriction.

10.3.2. Ginning

- Under SRO 507(I)/94, machinery not manufactured locally if imported for balancing, modernization and replacement is exempt from customs duty in excess of 10%; Pre-cleaning equipment, Linter cleaning equipment, Saws for sawgins.
- Under SRO 26/98, machinery not manufactured locally imported for agro-based industries is exempt from customs duty in excess of 10% and whole of sales tax.

10.3.3. Yarn

- *Man-made filaments*; Man-made filaments including monofilaments and other types have a custom duty of 25% on import.
- *Artificial and synthetic filament yarn*; have 35% duty, while filaments of viscose rayon and nylon and other polyamides is 10% ad val.
- *Cotton Yarn*; Import of cotton yarn, which is not put up for retail sale, is subject to 10% ad val. import duty. This applies for both yarns containing less than 85% by weight of cotton and more than 85% by weight. Sewing Threads are subject to 35% duties.
- *Synthetic filament tow*; Acrylic fiber synthetic filament tow is subject to 25% ad val. Import duty. There is a composite duty of Rs. 18/kg + 25% ad val. on synthetic filament tow of nylon and other polyamides and of polyesters.
- *Artificial filament tow*; 10% ad val. rate of duty is present on artificial filament tow of viscose rayon, other artificial filament tow have a composite duty of Rs18/kg +25% ad val.
- *Synthetic and Artificial Staple fibre*. Import of synthetic staple fibre of polyester and acrylic are subject to 25% duty ad val, while those of nylon and other polyamides and other broad types have a composite structure of Rs 18 per kg in addition to the ad val rate of 25%.
- The import duty on PTA is 15% and on MEG is 15%. Other chemicals and oils are subject to 10% duties with a few exceptions.
- The import duty on artificial staple fibre of viscose rayon is 15% while on all other categories of artificial staple fibre a composite duty structure of Rs 18/kg + 25% ad val exists.
- Artificial & synthetic staple fibre yarn is subject to 25% import duty.

10.3.4. Fabrics

- All woven fabrics of cotton or containing cotton are subject to 35% import duty ad val. Woven fabrics of cotton, containing less than 85% cotton or more than 85% of cotton and



woven fabrics of cotton containing less than 85% or more than 85% cotton mixed solely with man made fibres.

- Import of Fabrics of artificial and synthetic fibre have 35% duties imposed on them. This measure supports the local fabric manufacturers.

10.3.5. Garments

- For manufacturing of garments from fabrics, Incorporation of trimmings, buttons, belts and similar items and manufacturing of foundation garments, exemption from all of customs duty and sales tax is allowed on the temporary import with a view of subsequent exportation on the following group of items:
 - Materials for processing, manufacturing and repair, packing materials, price labels, tags, textiles designs, artwork, transparencies, special labels, special buttons etc. (SRO 818(I)/89)
 - Exemption from all of customs duty and sales tax on import for subsequent re-export also allowed for accessories and components used in value added garments such as zip/zip fasteners, Velcro, tapes, buckles, labels buttons etc. (SRO954 (1)/98)

10.4. Government Efforts to Facilitate Exports: Incentives

Government has been introducing various incentives, to boost exports and to facilitate the exporters by simplifying the procedure, especially for duty free imports of raw materials. Some of the important incentive packages are critically evaluated in a chronological order below. Most of the details discussed in this section are the result of different brainstorming sessions conducted during the course of research to identify problem areas for the textile industry.

10.4.1. Customs Export Processing Zones, 23rd August 1980 and 5th March 1984, 881(I)/80, 882(I0/80 and 249 (I)/81

- These rules apply to all zones including Industrial Free Zones and such Export Oriented Units and cover all goods / raw materials imported into Zones.
- These zones operate as offshore facilities in terms of customs and any sort of machinery and raw materials can be imported into them. They do not have access to banking and are meant for foreigners or overseas Pakistanis.

10.4.2. Exemption on Temporary Import with a view of subsequent exportation. 9th August, 1989. SRO 818(I)/89

Manufacturers of garments are allowed exemption from customs duty and sales tax provided they export goods within a year of import. An application for exemption has to be furnished to collector of customs and on approval a bank guarantee (indemnity bond) has to be furnished. These rules cover identifiable goods classified under the following. The Materials for processing, manufacturing and repair, packing materials, price labels, tags, textiles designs, artwork, transparencies, special labels, special buttons etc. However items like chemicals etc. are difficult to use since they are not identifiable at the time of exports.

The procedures under this SRO are less complicated than other rules. Duty free import is allowed and lengthy procedure of claiming duty drawback is avoided It is difficult to misuse. However the condition is that 100% of the goods are to be exported. Also indirect exporters are outside the scope of these rules.

10.4.3. Manufacturing in Bond Rules, 6th Nov 1997, SRO 1140(I)/97

Manufacturers are exempt from customs duty and sales tax on imported goods for the manufacture of goods primarily meant for exports on the condition that the manufacturer should own or have lien over the premises.

There is a lengthy procedure and a long list of formalities that have to be completed after which a license is issued. Analysis Certificate is also required to determine input-output for every new type of finished goods. There are also other formalities for the premises and procurement of goods. Under this scheme any types of goods can be imported (except banned goods) and thus has a wide coverage.



10.4.3.1. Industry Recommendations

- The condition of filing of Bill of Entry should be removed altogether.
- Locally procured duty paid input goods should be allowed in the same premises.
- Licensee should be allowed to transfer finished goods to its subsidiary company for export.
- No Tax/Duty should be levied on such percentage on invisible loss of raw material, which is allowed in the Analysis card.
- Wastage should be allowed to be removed for home consumption on payment of Sales Tax only.
- Rules and procedures of other SROs should not be applicable to the said SRO. Registers and returns should be maintained under sales tax act not under the SRO. (Duplication of records).
- Procedure of In-bond and ex-bond are to be clearly defined.
- Licenses for 3 years instead of six months should be issued.
- Re-usage of wastages should be clearly allowed in the rules, such as Card Fly.

10.4.4. Exemption on Import of Plant & Machinery and Equipment for Value Added Industry, 17th January, 1998, SRO 27(I)/98

Exemption from entire of customs duty and sales tax is allowed on the condition that the unit exports a minimum of 50% of its production and minimum 40% value should be added. The procedure requires a written declaration on the bill of imports and an indemnity bond is furnished. This bond is released when exports take place.

10.4.4.1. Industry Recommendations

- The tendency of illegal gratification for the issuance of installation certificate needs to be curbed.
- Some goods not manufactured locally but still present in CGO and locally manufactured goods of inferior quality should be exempted from levies.
- If an exporter fails to meet the minimum requirement of 50% export of unit production or any other condition, the punitive action should be according to the default committed, as was earlier devised in SRO.

10.4.5. No Duty No Drawback Scheme, 23rd July 1998, SRO 844(I)/98

- This Scheme is for both direct and indirect exporters, who add a minimum value of 25% over the cost and freight on imported or locally produced goods or supplies. Goods imported under the Import Policy Order are exempt from customs duty and sales tax and income tax.
- A list of intended finished goods along with the input goods is provided to Collector of Customs. The Collector of Customs will issue a passbook and clearance. Input goods have to be consumed within six months. Entry of the export goods is made in the passbook.
- This is a much-preferred Scheme by the industries, as claiming duty drawbacks or rebates is avoided.

10.4.5.1. Industry Recommendations

- Collector assesses the input-output ratio on case to case basis. A standard formula for the extent of wastage is required for each quality of raw material
- Selling of input goods be allowed to anyone after payment of applicable levies
- Re-export of input goods be allowed to anyone after payment of applicable levies
- Re-export of input goods & consumption period is six months this should be enhanced.
- Transfer of facility be allowed.
- Tax-free procurement of locally made taxable goods be restored as existed prior to amendment.
- Rebate be allowed to exporter in eventuality if the exporter due to unforeseen circumstances has to procure local duty paid goods.



10.4.6. Exemption on Import for subsequent Re-export, 7th September, 1998 SRO 954(I)/98

- Import of items for use in value added garments are exempted from all of customs duty and sales tax. Items allowed under these rules contain zip/zip fasteners, Velcro, tapes, buckles, labels, buttons etc.
- Exporters have been benefiting from this scheme and they have recommended it to be continued.

10.5. Specific Recommendations to Simplify Regulatory Procedures

Some of the issues with the above mentioned rules and schemes are highlighted below with possible solutions.

- a. Bonding Schemes do not have SME focus. Small companies cannot secure large orders and therefore do not get competitive prices. Most of them have to rely on commercial importers for their raw material requirements. Hence there is a need for Common Bonded Warehouse Schemes, this allows small firms to pool together resources and enjoy the same competitive advantages of larger firms.
- b. For manufacturing in bond, analysis certificate is required for input output ratios. This ratio is firm specific and is assessed differently for each firm.
- c. Integrated units cannot avail exemptions because it is difficult to determine how much of the inputs were actually used in the exported products, when the quantity and items are not identifiable, duty drawbacks cannot be obtained.
- d. Information by CBR/Customs is required on rules and procedures and changes made. Clarifications on these rules are difficult to obtain. The main problem of these regulations from the point of view of exporters and manufacturers is that information about government regulations is not easily available especially about new regulations. Awareness about these regulations among stakeholders i.e. the ones who are the most affected by these, is low.
- e. Custom clearance and shipment release procedures are slow and cumbersome. These are complicated and expensive to administer. This is another contributing factor destroying the competitive advantage of exporters. Also there are delay in payments under duty drawback schemes. Bonding scheme procedures have the same problems. The customs authorities should streamline procedures on priority basis to improve the export performance of the country. These procedural reforms will have positive effect not only on the textile industry but all the export-oriented sectors are likely to benefit from it.
- f. Some textile items appear in the negative lists – There import is not allowed except for some categories which can be imported under the No Duty No Drawback Rules and Manufacturing in Bond Rules. Items placed on the negative list include categories of woven fabrics of cotton, woven fabrics of synthetic staple fibers and artificial staple fibers, special woven fabrics. Also some accessories like Velcro tapes, foundation garment materials etc are on the negative list. Local manufacturers have to pay more for the same quality as compared with competitors. The negative list for textiles may be abolished, as most of the products in the list are not produced locally.

The remedial actions to make these schemes effective are also provided in the strategy and recommendations section of the report.

10.6. Rebates / Dutydrawbacks Structure

Rebates and duty-drawbacks are available on the duty paid on the import of raw materials subject to the condition that the goods produced from this raw material are exported. In an economy where sectors are protected through high tariff rates and where other incentives offered by the Government in the form of NDND schemes simply do not work, the compensation to the exporter in the form rebates and drawbacks is a great relief. Exporters of garments, wearing apparel, and other made-ups including towels are allowed rebates on imported raw materials including chemicals. Again these rebates vary according to the type of garments being exported.

The exporters face two major problems regarding the existing rebate mechanism firstly there exists a time lag in the modifications of the rebate structure for various textile products. On the basis of input-output coefficient the rebates structure should be continuously monitored and timely adjustments be



made so as to maintain the competitive advantage of the local producers in the international markets. Secondly, rebates are paid by the concerned department after long delays which again causes cash flow problems, as in the case of sales tax refund. Existing average rebate on different textile sub-sectors is mentioned in the table.

Table 10.6.1: Export Incentives

Grey cotton garments/made-ups, made of 100% cotton	Bleached garments/made-ups, made of 100% cotton	Dyed or printed ready-made garments & made-ups made of 100% cotton	Partially-dyed/partially-printed fabrics, garments and made-ups, made of 100% cotton	Grey blended garments, wearing apparel and other made-ups (all blends of polyester staple fibre from 15% and cotton fibre).	Bleached blended garments, wearing apparel and other made-ups (all blends of polyester staple fibre from 15% and cotton fibre).	Dyed or printed blended garments, wearing apparel and other made-ups (all blends of polyester staple fibre from 15% and cotton fibre).	Woven or knitted ready-made garments/made-ups whether or not dyed or printed	Hosiery articles of all sorts
2.70% of the f.o.b. value	3.80% of the f.o.b. value	7.70% of the f.o.b. value	5.60% of the f.o.b. value	4.40% of the f.o.b. value	5.40% of the f.o.b. value	8.50% of the f.o.b. value	8.80% of the f.o.b. value	4.80% of the f.o.b. value

10.7. Other Government Departments and The Textile Industry

The industry has to deal with numerous agencies like Social Security, EOBI, Labor Department, Health Department etc. Many of these Government agencies were established with the objective to facilitate, support and protect the labor class and to resolve the problems of workers. These agencies besides lending a helping hand to the industry in sharing their expenses on labour welfare, sometimes also prove to be counterproductive due to their undue interference in the operations and management of an enterprise.

Manufacturing and selling is both a management and labor intensive business. There are too many agencies interfacing with the industry, and the implementation of many such laws has in fact become a serious retardant for the entry of new, educated entrepreneurs especially in the SME sector. It is not in the interest of the components of industry to take on the additional burden of legal expenses to fight continuous legal battles against unfair fines imposed by these agencies. To avoid paying the due amount for employee benefits and to avoid harassment at the same time, the common industry practice is to pay monthly bribes to low cadre Govt. employees. These expenses are reflected in the company overheads.

Main Government departments dealing with the industry are as follows:

10.7.1. Employees Social Security Institution-ESSI (Revenue Collection)

The ESSI was established in 1965 with the objective of providing benefits to employees or their dependents in case of sickness, injury or death and other health related problems. Each firm employing 10 or more employees is liable to contribute 7% of the salary of each worker, contribution from employer's side. This applies to all those workers who are getting salary more than Rs.1950 per month and less than Rs.3000/- per month. This is a per month contribution. The contribution are then mobilised to provide workers with medical health care facilities, employees pensions and labour rehabilitation programmes.

10.7.2. Employees Old Age Benefit Institution-EOBI (Revenue Collection)

The Employees Old Age Benefit Institution (EOBI) was established in 1976 with the purpose of providing financial security to employees in Old age after retirement. Firms having 10 or more employees contribute 5% of the salary of each employee that is contributed from the employer's side regardless of the status or cadre of the employee. A firm has to contribute this amount for all the workers on the payroll earning the minimum amount. The upper limit of EOBI collection is Rs. 3,000. This is a monthly contribution. EOBI after fund collection distributes it among deserving retired employees through its various pension schemes:

- Old Age Grant (Pension scheme for individuals not entitled for pension)



- Survivor Pension (for widows of workers)
- Invalid Labour Pension (for disabled person)

10.7.3. Education Cess (Revenue Collection)

Rs.25/- per worker that is contributed quarterly from the employer's side. This fund is collected through Excise and Taxation department.

10.7.4. Labour Department (To ensure the certain benefits to the work force)

The labour department ensures that the labour laws regarding the labour wages, work environment, labour security, etc. are being properly implemented and observed in the industry. The laws are applicable on any firm employing 10 or more workers. This department also ensures certain benefits for the workers like appropriate working environment, payment of gratuity fund, bonuses, yearly increments, availability of fair price shop, etc.

10.7.5. Health Department

The employees of this department are authorised to frequently visit the manufacturing facility and conduct an audit survey on the general health of the workforce and the standards of engagement.

10.7.6. Civil Defence

To ensure the general conditions of safety against fire or accident, regular checking of fire instruments takes place and training is provided to workers.

10.7.7. Electrical Inspection

The Electrical Inspection Department ensures safety of electric systems of the manufacturing setup, and proper electricity lines electrical wiring.

10.8. Major Issues

Social Security, Labor and EOBI departments carry out whimsical inspections and there's no schedule set for inspection.

Labor laws should be reviewed to safeguard the interests of both the employer and the employee. As else where in the private sector all over the world, the employer should have the freedom to set performance criteria and accordingly hire and fire employees.

There is great need for deriving a formula for one window operation of payments and approvals, which allows the entrepreneurs to focus on running the business rather than dealing with Govt. agencies.

Concerned government agencies should make efforts towards easy and timely availability of information for the stakeholders. Links should be established with industry chambers and associations, which will quickly deliver information on new regulations. Seminars and forums may be used for explanation of new procedures and clarifications.

10.9. Analysis of Current Situation & Recommendations from the industry

- Social Security, EOBI, Labor should carry out scheduled annual inspection
- There are huge gaps in the proper implementation of Government regulations, and that leaves loopholes in law, which can benefit corrupt officials.
- Labour department manuals need to be rewritten and to be pro-business. Present manuals neither favor owner nor labour but favors labor department itself.
- Different departments can be merged into one to provide one-window stop for businessmen. Also, different levies can be merged into one to make payment easier for the businessmen and collection easier for the government. Also, to redefine the role of any such institution i.e. restructuring and overhauling. In this regard as a first step all the labour related levies including EOBI, Social Security, etc may be combined together and collected as a fixed percentage of turnover



Annexure I

Duties and Sales Tax on all the sectors / related products of Textile Value Chain

HS. No.	Description of Article	Customs Duty	Sales Tax on	
			Import	Supply
2905.3100	Ethlene glycol (ethanediol) (MEG)	10%	15%	15%
2917.3610	Pure terephthalic acid (PTA)	15%	15%	15%
32.04	Synthetic organic colouring matter(VAT Dyestuffs, Basic Dyestuffs, Azoic Dyestuffs, Sulfur Dyestuffs etc.)	25%	15%	15%
52.01	Cotton, not carded or combed	0%	15%	15%
52.02	Cotton waste (Including yarn waste)	35%	15%	15%
52.03	Cotton carded or combed	10%	15%	15%
52.04	Cotton sewing thread	35%	15%	15%
52.05/52.06 /	Cotton Yarn	10%	15%	15%
52.08	Woven Fabrics of Cotton <200g/m2	35%	15%	15%
52.09	Woven Fabrics of Cotton >200g/m2	35%	15%	15%
52.10/52.11	Woven fabrics of Cotton blended with man made fibers	35%	15%	15%
54.01	Sewing Thread of man made filaments	35%	15%	15%
54.02	Synthetic filament yarn	35%	15%	15%
54.03	Artificial filament yarn	25-35%	15%	15%
54.04	Synthetic monofilament of 67 decitex	25-35%	15%	15%
54.05	Artificial monofilament of 67 decitex	25-35%	15%	15%
54.06	Man-made filament yarn	35%	15%	15%
54.07	Woven Fabrics of synthetics filament yarn	35%	15%	15%
54.08	Woven fabric of artificial filament yarn	35%	15%	15%
55.01	Synthetic filament tow	Rs. 18/Kg+25%	15%	15%
55.02	Artificial filament tow	Rs. 18/Kg+10-25%	15%	15%
55.03	Synthetic staple fibres, not carded or combed	Rs. 18/Kg+25%	15%	15%
55.04	Artificial staple fibres, not carded or combed	Rs. 18/Kg+15-25%	15%	15%
55.05	Waste of man-made fibres	Rs. 18/Kg+25%	15%	15%
55.06	Synthetic staple fibres, carded or combed	Rs. 18/Kg+25%	15%	15%
55.07	Artificial staple fibres, carded or combed	Rs. 18/Kg+15-25%	15%	15%
55.08	Sewing thread of man-made staple fibres	35%	15%	15%
55.09	Yarn of synthetic staple fibres	25%	15%	15%
55.10	Yarn of artificial staple fibres	25%	15%	15%
55.11	Yarn of man-made staple fibres	25%	15%	15%
55.12/55.13 /55.14	Woven fabrics of synthetic staple fibres	35%	15%	15%
55.15	Other woven fabrics of synthetic staple fibres	35%	15%	15%



55.16	Woven fabrics of artificial staple fibres	35%	15%	15%
58.01	Woven pile and chenille fabrics	35%	15%	15%
58.02	Terry towelling and similar woven terry fabrics	35%	15%	15%
58.03	Guaze, other than narrow fabrics	35%	15%	15%
58.04	Tulls and other net fabrics	35%	15%	15%
58.05	Hand-woven tapestries	35%	15%	15%
58.06	Narrow woven fabrics	35%	15%	15%
58.07	Labels, badges and similar articles	35%	15%	15%
58.08	Braids in the piece; ornamental trimmings	35%	15%	15%
58.09	Woven fabrics of metal thread	35%	15%	15%
58.10	Embroidery in the piece, in strips or in motifs	35%	15%	15%
58.11	Quilted textile products in the piece	35%	15%	15%
60.01	Pile fabrics and terry fabrics, knitted or crocheted	35%	15%	15%
60.02	Other knitted or crocheted fabrics	35%	15%	15%
83.08	Clasps, frames with clasps, buckles, buckle-clasps, hooks, eyelets etc.	25-35%	15%	15%
84.44	Machines for extruding, drawing, texturing or cutting man-made textile materials	10%	15%	15%
84.45	Machines for preparing textile fibres; spinning doubling or twisting, and other machinery for producing textile yarns	10%	15%	15%
84.46	Weaving machines (looms)	10-35%	15%	15%
84.47	Knitting machines, stitch bonding machines and machines for making gimped yarn	10%	15%	15%
84.48	Auxiliary machinery; dobbies, jacquards etc.	10-25%	15%	15%
84.51	Machinery for washing, cleaning, wringing, drying, ironing, pressing, bleaching, dyeing, dressing, finishing, coating etc.	10%	15%	15%
84.52	Sewing machines	10%	15%	15%
96.06	Buttons, press-fasteners, snap fastners and press-studs, button moulds and other parts of these articles	35%	15%	15%
96.07	Slide fasteners and parts thereof	35%	15%	15%

Source: Customs Tariff and Trade Controls 1999-2000(Twenty Second Edition)



Annexure II

SROs Summary

SRO	Date	Title	Exemptions		Coverage	Conditions	Procedures
			Custom Duty	Sales Tax			
818(I)/89	9th August, 1989	Exemption on Temporary Import with a view of subsequent exportation	Whole of customs duty leviable under the First Schedule of Customs Act.	whole of tax under the Act.	Materials for processing, manufacturing or repair Packing materials Price Labels/ Tags Textile designs, artwork, transparencies Special labels, special buttons, special	Manufacturing of garments from fabrics. Incorporation of trimmings, buttons, belts and similar items n garments Manufacturing of Foundation Garments	<ol style="list-style-type: none"> 1. Application for exemption made to the Collector of Customs 2. Bank guarantee (indemnity bond) furnished to collector of customs. 3. The goods have to exported within a year
844(I)/98	23rd July, 1998	No Duty No Draw Back Scheme	Whole	Whole	Goods imported under the Import Policy Order except polyester staple fibre	<ol style="list-style-type: none"> 1. for Direct and indirect exporters, on imported and locally produced input goods or supplies 2. Minimum value of 25% over the cost and freight 	<ol style="list-style-type: none"> 1. List of intended finished goods along with the input goods to Collector of Customs 2. The Collector will issue a pass book and clearance 3. Input goods to be consumed within six months 4. After export, entry is made in pass book
1140(I)/97	6th Nov., 1997	Manufacturing in bond rules	Whole	Whole	Imported goods for manufacture of goods primarily meant for export	own the premises or have a lease	<ol style="list-style-type: none"> 1. Application to Collector of Customs for licence 2. Analysis certificate for input output ratio
881(I)/80 882(I)/80 249(I)/81	23rd August, 1980	Customs export processing zones	Whole	Whole	Goods / raw materials imported into Zones	apply to all zones including Industrial Free Zones, Free Trade Zones and such Export Oriented Units	

27(I)98	17th January, 1998	Exemption on import of plant and machinery and equipment for value added	Whole	Whole	Textile: Value added	unit exports minimum 50% of its production value added of 40%	<ol style="list-style-type: none"> 1. Written Declaration 2. Indemnity Bond
554(I)98	12th June, 1998	Exemption on machinery and spares for setting up, expansion and BMR	all, leviable under the First Schedule of Customs Act	all leviable under the said act	Imported machinery and spare parts not manufactured locally	not manufactured locally, imported for setting up a manufacturing unit or for the expansion, balancing, modernization and replacement of existing units in bond cannot be shifted or used for other purposes before five years	<ol style="list-style-type: none"> 1. Present documents to Collector of Customs that the imports are for manufacturing in bond 2. Indemnity bond to the extent of customs duty 3. Certificate of Installation from Assistant Collector, Customs and Excise
499(I)95	14 th June, 1995	Exemption on import of raw material, sub components and components	Whole	Whole	Textile: Value Added	<ol style="list-style-type: none"> 1. Raw materials, sub-components, components imported for use in the manufacture of goods specified in table primarily meant for export 2. The manufacturer has sufficient in house facilities to manufacture 3. Goods exported or supplied within one year 	<ol style="list-style-type: none"> 1. List of goods alongwith raw materials to the Chief, Survey and Rebate, CBR 2. Declaration on Bill of Entry 3. Evidence to Collector of Customs after exportation

11. Textile Quota

11.1. Bilateral Textile Agreements and Quota Restraints on Pakistan

The Multi Fiber Arrangement (MFA) started a phase of non-tariff barriers for the exporters of textiles from developing countries. As a result USA, EU and Canada imposed quota on the imports from developing countries. The establishment of GATT in 1994 initiated a process of eliminating non-tariff barriers, The Agreement on Textiles (ATC) became the doctrine to drive the elimination of quotas on textile imports. ATC provides mechanics on the MFA phase, which are discussed in the WTO section of the report.

A large number of products ranging from cotton yarn to ready-made garments are under quota restraint. Pakistan has bilateral textile trade agreements with USA, EU and Canada for its exports of textiles. The USA has imposed quotas on 39 items (Cotton and MMF). In EU, there are 15 categories of cotton and MMF products, which fall under quota restraints whereas a large number of categories falling under apparel group are still outside quota restraint. The Canadian market has 10 textile categories under quantitative restrictions.

In Pakistan Textile Quota Management was handed over to the private sector in 1997. For this purpose Quota Supervisory Council (QSC) and Product Group Committees were set up. The Government has announced different quota policies over the last many years in order to make quota utilisation and management more effective.

Competition faced by Pakistan's textile exports in the markets of restraining countries will grow when quotas are removed following the integration of items in the GATT 1994. The need of the hour is to ensure that the textile sector remains competitive to face this challenge in the post quota scenario. An effective Quota Policy can play a very important role to direct the whole textile sector towards the achievement of an ambitious target of growth through value addition.

11.2. Textile Quota Policy of Pakistan for the year 2000

SALIENT FEATURES

- The basic criteria for allocation of quotas is on the basis of performance i.e. the performance holders shall receive allocation of quotas equal to the actual quantity exported by them under each category during the preceding year to a specific quota country, i.e. one hundred percent on performance basis.
- Additional quota quantities may be allocated to exporters on the basis of comparative higher value exports. These additional quotas shall be allocated from the quota available with the Government commencing from the next quota year i.e. 2001 on higher value during preceding year that is commencing with higher value attained in 2000. The additional quota shall be allocated to the exporters in each category as per the following formula:
 - a. 5% additional quota over authenticated entitlement if unit price in the preceding year was 25% above the national average.
 - b. 3% additional quota if unit price was 15% to 24% above the national average.
 - c. 2% additional quota if unit price was 5% to 14% above the national average.
 - d. No additional quota if increase in unit value was less than 5%.
- Flexibilities available in each quota category would be announced in early January. However, individual exporters will only be allowed to use these flexibilities after physical shipment of at least 70 percent of their quota entitlement in each category.
- This means that performance during the year and non-entitlement will be the basis for utilizing flexibilities including swing and shift etc.

- By the 15th of January, the quantities of residual quotas will be announced in each category where utilization was 80% or below of the base ceiling during the preceding year and allow export of these quantities by registered exporters on a First Come, First Serve basis for one time use only. Such exports shall not be treated as performance for quota entitlement in the following quota year.
- First-come First-serve (FCFS) will be allocated both for reservations as well as post shipment in the following ratios.
- 70 percent quota in each category placed for FCFS will be allocated to exporters after they have made shipments.
- 30 percent quota in each category placed on FCFS will be available for reservations and rates of bank guarantees:
 - For shipment within 60 days provided an irrevocable Letter of Credit / Contract is produced, the bank guarantee equal to 2 percent of the FOB value of the quota being reserved.
 - For shipment within 90 days, bank guarantee equal to 5 percent of the FOB value of the quota being reserved.
 - For shipment in 120 days, bank guarantee equal to 7.5 percent of the FOB value of quota being reserved.
- No extensions will be granted. The last date for shipment in each case will be 31st October. On expiry of the reservation period or the deadline of 31st October, whichever comes earlier, the bank guarantee will stand forfeited and the quota would revert FCFS pool.
- Only those performance holders who have utilized 90% of their authenticated quota entitlement would be eligible to avail First Come First Serve basis facility.
- The surrender of performance quota shall be allowed upto 15th September without forfeiture of security deposit. This surrendered quota will be included in the pool of First Come First Served Basis.
- Exporters who open new category passbook with transfer-in quota will have to ship at least 90 percent of the quota transferred in.
- Transfer-out from new category passbook in such cases will not in any case be allowed above 10 percent of the total quota.
- Allocation of quotas authorized by Textile Associations to both the performance holders and other exporters shall be made against periodical security deposits as follows:

i. First Quarter	Nil
ii. Second Quarter	Nil
iii. Third Quarter	0.5%
iv. Fourth Quarter	1%
- There shall be no security deposit for quota obtained through auction or quota reserved on First Come First Served Basis.
- The quantities of growth quota each year shall be put to auctions by Export Promotion Bureau. Three auctions will be held in each year not later than 7th March, 15th May, and 15th July, respectively. Fifty per cent of the total growth quantity shall be placed in 1st auction, twenty-five percent each in 2nd and 3rd auctions.
- Residual quota will be auctioned separately.
- The number of textile associations handling quota categories will be reduced.
- Effective from 2001, only those textile associations which handle 15 percent of the quota in any category will be allowed to operate in these categories. Any association which does not handle 15 percent or above of quota in particular category will cease its functions in that category.
- Quotas allocated to exporters on performance and purchased from open market shall be transferable. Quotas allocated through auction shall be non-transferable.

11.3. An Overview of Quota Policies of India, Philippines, Hong Kong & Indonesia

11.3.1. Textile Quota Policy – India

11.3.1.1. System of Allotment

The total quantity available under export quota in each allotment year is allocated under the following system:

11.3.1.1.1. Garments and Knitwear:

a. Past Performance Entitlement (PPE) System	70%
b. New Investors Entitlement (NIE) System	15%
c. Non Quota Entitlement (NQE) System	5%
d. First Come First Serve (FCFS) Entitlement System	10%

11.3.1.1.2. Yarn, Fabrics & Made-ups

Yarn

a. Past Performance Entitlement (PPE) System	55%
b. Manufacturer Exporters Entitlement (MEE) System	15%
c. Ready Goods Entitlement (RGE) System	30%

Fabrics (Other than for categories 3, 3a/EU, 31a and 32a/Canada):

a. 1. Past Performance Entitlement (PPE) System	55%	
b. 2. Manufacturer Exporters Entitlement (MEE) System		15%
c. 3. Powerloom Exporters' Entitlement (PEE) System	15%	
d. 4. Ready Goods Entitlement (RGE) System	15%	

Fabrics (for EU/category 3, 3a; Canada category 31a and 32/a)

a. 1. Past Performance Entitlement (PPE) System	55%
b. 2. Manufacturer Exporters Entitlement (MEE) System	15%
c. 3. Ready Goods Entitlement (RGE) System	30%

Made-Ups (Handlooms) (under quantitative restraint in USA):

a. 1. Past Performance Entitlement (PPE) System	55%
b. 2. Ready Goods Entitlement (RGE) System	45%

Made-Ups (Mill-made/powerlooms)

a. 1. Past Performance Entitlement (PPE) System	55%	
b. 2. Manufacturer Exporters Entitlement (MEE) System		15%
c. 3. Powerloom Exporters' Entitlement (PEE) System	15%	
d. 4. Ready Goods Entitlement (RGE) System	15%	

11.3.1.2. Past Performance Entitlement (PPE) System INCLUDING THE HIGH VALUE ENTITLEMENT (HVE) SYSTEM

- 70% of the total export quota available is allocated under this system. Out of this quantity, 5% is allocated to a reserve pool called High Value Entitlement.

- The export quota available for each category under PPE is allocated to applicants (exporter) on a pro-rata, based on their performance (export sales in Rs.) in the category concerned during the base year. The allocation is, however, restricted to the average annual export performance of India in the category during the base year.
- The quota under HVE is allocated to exporters (in-addition to the quantity applied for) who have realized a unit value higher than the overall average unit value achieved in the base year, in the category concerned. The allocable quantity is computed on the basis of difference between the unit value realised and average unit value in a category multiplied by the quantity exported by individual exporters in that category.

11.3.1.2.1. Allotment

The allotment is made in two parts, each consisting of 50%. The first part is valid from the date of allotment till the 31st of May and the second part is valid till the 30th of September. The unutilized quantity cannot be carried forward and is lapsed.

11.3.1.2.2. Transfer

The transfer of first part and second part of quota allocation is allowed. The original quota holder can transfer the quota till 31st of May and 20th Sept respectively. The PPE quantity when transferred is known as PPT (Past Performance Transfer). The shipments against PPT are counted as exports by the transferee. The transferee, however, is not allowed to further transfer the PPT.

11.3.2. New Investors Entitlement (NIE) System

The quantity allotted under New Investors Entitlement system is 15% of the total quota quantity available. The quota is allocated to registered exporters who have invested a minimum amount of Rs. 50 lakhs in new machinery either in an existing or a new unit. The quota is allocated by the Quota Administering Authority on the basis of the production capacity of eligible applicants on a pro-rata basis. The exporters have to submit an affidavit at the time of certification of shipments that the goods being exported have been manufactured in their production units (modernized or upgraded).

11.3.2.1. Allotment

The allotment is made in two parts, each consisting of 50% of the allotment. The first part is valid from the date of allotment till the 31st of May and the second part is valid till the 30th of September. The unutilized quantity cannot be carried forward and is lapsed.

11.3.2.2. Transfer

The quota under NIE is non-transferable.

11.3.3. Non Quota Exporters Entitlement (NQE) System

5 % of the total quota is allocated under NQE. Exporters of garments to non-quota countries and non-quota garments to quota countries are eligible for allotment under this system provided the payment is received in free currency and the exporter has a minimum export performance of Rs. 20 lakhs during the base year. Entitlement of an exporter is calculated on the basis of admissible exports during the base year. The exports of quota garments to non-quota countries are given double weight-age for the purpose of determining entitlements. The quota is allocated on pro-rata basis amongst the exporters depending upon the export performance in the base year. An exporter is permitted to choose a combination of ten categories for allotment of quota.

11.3.3.1. Allotment

The allotment is made in two parts, each consisting of 50%. The first part is valid from the date of allotment till the 31st of May and the second part is valid till the 30th of September. The unutilized quantity cannot be carried forward and is lapsed.

11.3.3.2. Transfer

NQE is transferable (such transferred entitlements are then referred as NQT) and the conditions of transfer are same as in the case of PPE.

11.3.4. First Come First Served (FCFS) System

10 % of the total quota quantity is allocated under this system. The entitlement under the FCFS system is opened twice in a year. 50% of the entitlement is released on the 10th of January and the other 50% on the 10th of April. In-addition, quantities available by way of surrender, flexibilities or otherwise (if any) is also released on 10th April, 10th July and 10th November.

11.3.4.1. Allotment

The quota is allocated among the applications received on the day the available quantities under FCFS are over subscribed on the basis of unit value realization.

11.3.4.1.1. System of Allotment

- a. Allotment under the FCFS system is subject to bank guarantee @ 5% of FOB value of the quantity involved.
- b. The Textile Commissioner (in consultation with Quota Administering Authority) can fix the maximum quantity that an applicant can apply in a particular category per day

The allotment is valid for 75 days from the day of allotment with no extensions allowed.

11.3.4.2. Transfer

First Come First Serve allotments are non-transferable.

11.4. Quota Policy – Philippines**11.4.1. PRINCIPLES FOR ALLOCATION OF EXPORT QUOTAS:**

In Philippines allocation of quota of textile products to a manufacturer-exporter is based on the basic principle of past performance, but the overall direction of the policy leads to the value addition and maximum utilization of the available quota limits.

11.4.2. SALIENT FEATURES

Some of the salient features of textile quota policy of Philippines are:

- A quota holder, who utilizes 95% or more, net of surrender, of its quota in a category is offered quota equal to 100% of its previous quota holdings in the category concerned.
- A quota holder who utilizes less than 95%, net of surrender, of its quota holdings in a category is offered quota equal to the quantity utilized in the previous year.
- The categories under quota restriction are divided into four sub categories based on the level of utilization of quota in the preceding year:
 - a. **Highly-Critical:** The categories in which the level of quota utilization is at least 95% for two consecutive years.
 - b. **Critical:** The categories in which the level of utilization is below 95%.
 - c. **Semi-Critical:** The categories in which the level of utilization is at least 70% but below 80%.
 - d. **Non-Critical:** The categories in which the level of utilization is below 70%.

- For highly-critical and critical categories, a quota holder who utilizes 50% or less, net of surrender, of its quota holding is not entitled for any quota allocation in the proceeding year.
- For highly-critical categories, in addition to the above, an exporter has to comply with the minimum FOB value established to qualify for the reallocation of export quota. A quota holder who performs less 80% of the minimum FOB value established for two consecutive years is not entitled for any quota allocation in the third year.
- The minimum FOB value established for firms exporting children wear is computed as 50% of the minimum FOB value established for adult sizes of the category concerned.

11.4.3. Utilization of Growth Quota

The growth quota, which is received by the Govt. each year, is given to exporters for their encouragement. A manufacturer-exporter is entitled to growth factor based on its performance in a critical category provided it meets all of the following:

- Performance of 95% or more in the highly-critical or critical category;
- Absence of transfer or surrenders in the previous quota year;
- FOB performance equal or higher than 80% of the minimum FOB value established and 10 % of the total FOB value pertain to categories where overall level of quota utilization is less than 70%.

11.4.4. Surrender

To ensure maximum utilization of the quota limit for Philippines as a whole, the quota holders are encouraged to surrender the unutilized quota as early as possible so as to make it made available to other exporters under the free quota scheme. Incentive in the form of quota allocation is provided in the following year depending on the quota surrender time period

For Highly-Critical and Critical categories

Period of Surrender	Quota offered in the following year
From start of quota year till March 15	100% of the surrendered quantity
March 16 to June 15	50% of the surrendered quantity
June 16 to June 30	25% of the surrendered quantity
Beyond June 30	Nil

For Semi-Critical and Non-Critical categories

Period of Surrender	Quota offered in the following year
From start of quota year till June 15	100% of the quantity surrendered
June 16 to June 30	75% of the quantity surrendered
July 1 to July 15	50% of the quantity surrendered
July 16 to July 31	25 of the quantity surrendered
August 1 to August 30	Nil

Voluntary surrender of all or part of export quota in a particular category for two consecutive years results in forfeiture of 50% of the weighted average of the quantity surrendered.

11.4.5. Transfer of Export quota

Transfer of export quota is allowed on temporary and permanent basis to optimize the utilization of textile quota.

11.4.5.1. Temporary Transfer

Transfer of a maximum of 10% of the export quota or ten thousand dozens, whichever is lower, entitles a quota holder to 100% allocation of the transferred quota in the following year. The performance is, however, credited to the transferee.

11.4.5.2. Permanent Transfer

A quota holder is allowed permanent transfer of quotas subject to the existing policy and a reasonable fee. However, the following restrictions are applicable on both the transferor and the transferee.

- a. A firm (quota holder) which permanently transfer out its quota to another firm is not allowed to permanently transfer back the quota in the same category for a period of 12 months from the date of permanent transfer.
- b. A firm to whom the quota is permanently transferred is not allowed to further transfer the quota in the same category for a period of 24 months from the date of permanent transfer.

11.4.5.3. Swap

A firm may swap only between the categories of the same status. The firms engaged in swapping cannot further swap the quantities acquired through it.

11.4.6. Export Quota Auction and Bidding:**11.4.6.1. Tender Quota available for bidding**

Tender quota means free quota available for public bidding available from flexibilities, forfeitures, surrenders and balances of growth factor.

11.4.6.2. Apportionment of Quota

The total allocable quota available for bidding is apportioned equally into big and small baskets. Big basket refers to the allocable balance of quota available to a manufacturer-exporter with export sales of five million dollars or more in the previous year. Small basket refers to the allocable balance of quota available to a manufacturer-exporter with export sales less than five million dollars in the previous year.

The big and small basket is then subdivided into adult and children categories in the ratio of 70 and 30 percent respectively.

11.4.6.3. Categories included for bidding

Only those categories which are classified as Highly-Critical (where quota utilization level of at least 95%) for the immediately preceding two years are allocated through a public bidding process. The quantities available for public bidding as well as minimum of FOB established per category are made available to the textile industry fifteen days prior to the bidding date.

11.4.6.4. Bid Pricing- Floor and Ceiling Prices

The floor and ceiling price is defined for all the categories included in the public bidding. The floor and ceiling price of 2% and 5% respectively is based on the minimum FOB value established, which in turn is calculated on the basis of actual export quota performance of the category in the immediately preceding quota year. The said floor and ceiling prices are based only on 80% of the minimum FOB value established.

11.4.6.5. Exporters Entitlement

The exporter entitlement to bid in a particular category is based on its export sales in the previous quota year. The exporter having export sales of five million dollars or more (US \$ 5,000,000) can bid for a maximum of 10% of the quota quantity available in big basket or 20% of the quantities of its total performance in the immediately preceding quota year, whichever is lower. The exporter having export sales less than five million dollars can bid for a maximum of 2 & 1/2 % of the quota quantity available in small

basket or 50% of the quantities of its total performance in the immediately preceding quota year, whichever is lower.

Release of quota to a successful bidder is conditioned upon the compliance with the industry average FOB value applicable to the category bid for. Quota through auction can not be transferred to another firm.

11.5. Quota System of Hong Kong

11.5.1. Principle of Quota Allocation:

Quotas are allocated according to the basic principle of past performance. Under this basic principle, a quota holder who used 98% or more of his quota holding in a particular category will be offered an allocation equal to 100% of his holding in the category in the following year; otherwise, he will be offered an allocation equal to the amount it used.

11.5.2. Transfer of Quotas:

- a. **Permanent Transfers** - All transfers in which the transferee obtains the use of quota for the year in question and, based on the performance against the transferred quantity, receives a quota allocation in the succeeding year;
- b. **Temporary transfers** - All transfers in which the transferee obtains the use of quota for the year in question and the performance against the transferred quantity is attributed to the transferor. There are two kind of temporary transfers:
 - Straightforward temporary transfers; and
 - Swing transfers, being a combination of a "Straightforward temporary transfers" and a swing.

11.5.2.1. Monitoring of Transfers:

With a view to monitoring the transfer activities, all transfer transactions are registered with the Trade Department of Government. Also in force is a set of rules which guard against excessive quota transfer activities and improper use of quotas to ensure that the flexibility of allowing quota transfers has not been unduly exploited or misused:

- a. Rules regarding permanent transfers - any trader who has permanently transferred-in quotas in any category is not allowed to transfer-out any quotas in that category on a permanent basis in the textiles year in which the transfer-in has taken place and textiles year immediately following.
- b. Rules regarding temporary transfers - any quota holder who, during a textiles year, gross transfers out in any group of categories on a temporary basis 50% or more of its quota holdings in that group will be liable to have its quota allocation in the following year reduced. The maximum reduction is 40% of its total temporary transfers-out in that group for the market concerned.

On the other hand, traders who are able to utilize all temporarily transferred-in quotas in addition to their own quota will be given an extra amount of quota in the succeeding year as an encouragement.

11.5.2.2. Flexibilities:

Swing: Swing is the exchange of quota in one category in return for an equivalent quantity of quota in another category. In the operation of the swing schemes, traders must surrender a portion of their quota in one category in hand in exchange for an equivalent quantity of quota in another category. Quota holders may swing quotas into a category from which they have previously swung out quotas, and vice versa. However, the parcel of quota which has been swung into a category may not subsequently be transferred or swung out again within the same restraint period.

11.5.2.3. Anticipation:

Anticipation of quotas allows quota holders to borrow a portion of their quota allocations for the succeeding textiles year for use in the current textiles year. Anticipation quotas which have been used in the current year to support exports will be debited from the traders allocations in the subsequent year.

11.5.3. Availability of Free Quotas to New Comers:

Free quota schemes provide opportunities for companies with insufficient quotas (including new customers) to obtain quotas. They also facilitate the gradual movement of quotas to traders with ability and genuine need to use them, and ensure optimum utilization of quotas for Hong Kong as a whole.

Free quotas are quotas which remain after allocation to all qualified quota holders on the basis of past performance. Under the flexibility provisions in the ATC, quotas not utilized in the preceding year may be carried over for use in the current year and such quotas may also be made available for application as free quotas.

Traders may apply for free quotas through applications under free quota schemes operated throughout the year. All applicants under the free quota schemes must demonstrate their ability to utilize the free quotas they apply for. Other conditions are put in place to ensure that this arrangement will not be abused, e.g. the requirements that the manufacturers must perform the principal processes of manufacture of the goods and that free quotas obtained may not be transferred out.

11.6. Quota Systems of Indonesia**11.6.1. Basis for Quota Allocation:**

Any registered exporter of textile and clothing already possessing a quota and realizing its export in the previous quota year shall obtain the quota allocation of the next quota year on the basis of the data recorded in the textile quota monitoring system.

The determination of quota quantity in favor of any exporter for the next quota year for the first stage shall be announced at the latest on December 24 in the current quota year. As for the second stage of Quota allocation, it shall be announced at the latest in the third week of January in the current quota year through the government agency issuing the Textile and Clothing Export Certificate.

Quota shall be allocated in the quantity equal to the realization of quota export of the previous quota year by the exporter concerned by taking into account the carry forward quota and all other quota adjustments of the previous year i.e. temporary quotas, realized quotas, shift or swing quotas etc.

11.6.2. Transfer of Quotas

An exporter can transfer his quota to another exporter through the Indonesian Commodity Exchange. If the exporter receiving the transfer realizes its quota in the current quota year, he in the next quota year shall be entitled to a quota equal in the quantity to the quota realized.

The validity period of a quota from a transfer shall be three months as from the date of the legalization of the transfer.

The quota of an exporter transferred to another exporter shall in the current quota year shall, in the next quota year, be deducted from the quota to which the transferring exporter shall be entitled.

11.6.3. Growth Quotas

Small-scale textile exporters and cooperatives may file an application for a textile quota in the month of October prior to the next quota year.

The quota source for exporters and cooperatives shall originate in a maximum quantity of 6% of the basic-level quota.

A maximum of five live categories shall be allocated to cooperatives, comprising a maximum of two categories for each quota country.

The determination of growth quota allocation shall be conducted in the month of January of the current quota year. The said allocated quota shall be a fixed quota originating from a base level quota which is allocated in a current quota year to a certain exporter and which can be re-allocated to the exporter concerned in the next quota year in accordance with the quantity realized in the current quota year. This quota can also be transferred to another exporter.

Exporters transferring the growth quota category of the previous quota year shall not be entitled, in the next quota year, to obtain the same category as the one transferred. The number of categories which may be obtained shall be the number of growth quota categories realizing in the previous quota year.

11.6.4. Pure Temporary Quotas

An exporter possessing a production unit either owning Quota or not owning Quota and having a realization achievement (shall be the achievement made by a particular exporter measured from the realization of export against the allocated quota in a quota year) of at least 90% of the total export obligation of the category and or group of textile and clothing items with a quota concerned, may file an application to obtain a Pure Temporary Quota (shall be a quota originating in a base-level quota less the permanent quota. In principle, realized temporary quota may become a permanent quota). The application for Pure Temporary Quota shall be filed in December of the previous quota year.

A producer exporter executing textile and clothing exports to non-quota countries may file an application to obtain Pure Temporary Quota in the same category type by attaching an evidence of export realization to non-quota countries.

Pure Temporary Quotas shall be allocated proportionally to exporters on the basis of the achievement of each exporter in realizing compulsory exports of textile and clothing with a quota in the category and or group concerned, including exports to non-quota countries in the next quota year.

The allocation of Pure Temporary Quotas shall be determined in the fourth week of January in the current quota year and shall be notified to exporter simultaneously.

The allocation of Remainder-Pure Temporary Quotas shall be simultaneously determined in the first week of March in the current quota year to applying exporter.

11.6.5. Flexibility Quotas

Flexibility Quotas (carry-over quotas, swing quotas etc.) shall be allocated to producer exporter only and cannot be permanent quotas.

Allocation of such quotas shall be determined in accordance with the flexibility quota quantity available and the number of applicants and shall be regulated as follows:

- a. If the quantity applied for is smaller than the flexibility quota quantity available, flexibility quotas shall be allocated in accordance with the application.
- b. If the quantity applied for is bigger than the flexibility quota quantity available then it shall be allocated on a pro-rata basis.

- c. The distribution of Flexibility Quota shall be effective for the categories, utilization of which in the previous quota year stood at 90% or more of the basic-level quotas;
- d. If the utilization of quotas in the previous quota year stood below 90% of the basic-level quota, the distribution of flexibility quotas shall be conducted at the end of every week starting early February of the current quota year as long as the quota is available.

Sixty percent of the source of Flexibility Quotas available shall be allocated to cooperatives and forty percent to exporters of textile and clothing units.

The filing of a Flexibility Quota application must mention a maximum of two names and addresses of overseas buyers as evidenced by the valid L/C and or the contract and purchase orders.

The validity period of flexibility quotas shall be two months as from the issuance of the allocation letter and shall not be extendable

Any exporter transferring 10% or more of the quota they own shall not be entitled to obtain the flexibility quota of the said category in the current quota year.

An exporter leaving in custody 10% or more of the flexibility quota owned shall not be entitled to obtain flexibility quota of the said category in the current quota year unless there is flexibility quota remainder.

11.6.6. Monitoring of Quotas:

The directorate of exports shall periodically announce the quota remainder still available as per type of quota for each country of destination to all exporters through the trade offices and associations.

11.7. PAKISTAN

11.7.1. Analysis of Textile Quota Policy for the year 1999 Vs 1996 & 1997-1998

Salient Features	Quota Policy Year			Comments/Analysis
	1996	1997-98	1999/2000	
Objective(s) defined behind the policy	1-To get higher value for quantities under quota restraints for different countries. 2- To ensure better utilization of quotas. 3-To allow equal opportunities for exporting to quota countries.	The main objective of this policy was to move towards value addition.	Policy is directed towards maximum quota utilization based on past performance. However, incentive for higher unit value shall also be given.	Quota policy during the previous years has been in-consistent and the weightage of concentration has been changing between value and quantity, which causes confusion for manufactures-exporters and as a result no guide line could be defined to achieve export targets and/or competitive unit prices.
Defined Time period	January' 96 - December' 96	January' 1997 - December' 1999 This policy was defined for <u>3 years</u> but could not complete its defined time period of 3-years. In 1999, again a new policy was announced.	For the year 2000.	As compared to our competitors (e.g. India's Policy is for year 2000-2004), our quota policy has been short termed and changing frequently. If we really have to deal with post-quota scenario, we have to plan our quota policy matters on long term basis.
Responsibility of Quota Management	TQMD-Textile Quota Management Directorate through Joint Supervisory Council	Export Promotion Bureau through Joint Supervisory Council	Quota Supervisory Council with the support of Product Group Committees and through EPB	

	1996	1997-98	1999/2000	Comments/Analysis
Basis of entitlement and allocation	<ul style="list-style-type: none"> ◆ The entitlement of the exporter for quota allocation was calculated on the basis of past performance (actual quantity exported) 	<ul style="list-style-type: none"> ◆ In 1997, the basis of entitlement / allocation to the performance holders was 75:25 for quantity and value. ◆ In 1998, quotas were allocated to 	<ul style="list-style-type: none"> ◆ The performance holders shall receive allocation of quotas equal to the actual quantity exported during the year 1999. ◆ For exporters, who 	<p>Because of the in-consistency in our quota policies during the previous years, no clear guideline could be defined for exporters who are dealing in textile quota products, neither the textile industry could be geared-up as per competitive requirements of post-quota scenario.</p> <p>In the quota policy for the year 1999, there was no</p>

<p>during the preceding year).</p> <ul style="list-style-type: none"> ◆ For categories, with utilization below 60% in the year 1995, the quota was allocated on First Come First Serve (FCFS) basis to exporters after the shipment has been made. Advance reservation of quota available under FCFS was allowed against bank guarantees. ◆ TQMD had the power to allocate ten percent of growth quota to the newly established manufacturing units. ◆ Twenty-five percent of the growth quota was earmarked for the new entrants from under-developed regions, and this quota was transferable. ◆ If an exporter made shipment in excess of his export authorization (where such excess in terms of quantity was not exceeding two percent of his authenticated entitlement), such excess shipment was 	<p>performance holders in the ratio of 65:35 quantity:value</p> <ul style="list-style-type: none"> ◆ It was defined in the policy that from 1999 to 2004, all quota categories will be allocated to performance holders on 50:50 quantity and value basis, but this could not be implemented from the year 1999 onward. ◆ For categories, with utilization below 90% in the year 1996, the quota was allocated on First Come First Serve basis to exporters after the shipment has been made. Advance reservation of quota under FCFS was allowed against bank guarantees. Such reserved quotas were not transferable. ◆ All discretionary quotas were abolished, including allocation to new entrants and for exporters of under-developed regions. ◆ Before the determination of final quota entitlements (from EPB, latest by 31st March), Exporters were allowed to apply for provisional quota 	<p>will achieve comparative higher price values during the year 2000, the additional quota shall be allocated in the year 2001 on the following basis: (i) 5% additional quota, if unit price is achieved 25% above the national average. (ii) 3% additional quota, if unit price was 15%-24% above the national average. (iii) 2% additional quota, if unit price was 5%-14% above the national average. (iv) No additional quota, if increase in unit value was less than 5%.</p> <ul style="list-style-type: none"> ◆ For categories, with utilization below 80% in the year 1999, the available quantities will be announced by 15th Jan.2000 and export of these quantities would be allowed on FCFS basis for one time use only. Advance reservation of 30% of FCFS quantity shall be allowed against bank guarantees equivalent to 3%, 5% & 7.5% of the F.O.B. value of the quantity to be reserved 	<p>special emphasis on achieving better unit value price neither any incentives were available for new entrants.</p> <p>There is a need to establish the quota allocation / authentication system in a way which could effectively achieve the objectives of maximum possible utilization and higher unit prices.</p> <p>The amount of bank guarantees required for advance reservations in FCFS facility should be reasonable, so that only serious exporters should get benefit of this scheme.</p> <p>However, keeping the "past performance" as the basic principle of the policy, certain measures can be taken or some limitations can be imposed, which can drive our apparel industry specifically and textile industry generally, towards the achievement of higher price per unit and maximum possible utilization of available quota quantities.(Ref: Philippines Quota Policy, which has been prepared on the same guidelines)</p>
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	adjustable against his export authorization for the next year.	allocations (in the beginning of quota year), up to 50% to 70% of their net export performance, during the preceding year.	for 60 days, 90 days & 120 days respectively. 70% of quota of FCFS will be allocated to on exports after shipment has been made. However, Only those performance holders who shall utilize 90% of their authenticated quota entitlement will be eligible to avail FCFS basis facility. Last date for shipment in each case of FCFS will be 31 st October. ♦ 90% provisional allocations will be made on Jan. 1.	
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	1996	1997-98	2000	Comments / Analysis
Auctions	<ul style="list-style-type: none"> ♦ Three auctions were held by TQMD in 1st week of March, 1st week of June and 1st week of September. ♦ Residual quotas were auctioned in economical lots. ♦ A bidder was allowed to bid for upto maximum of ten percent (10%) of quantities offered in the auction, which were not to be less than an economic lot. ♦ Quotas were offered for allocation to 	<ul style="list-style-type: none"> ♦ Two auctions were held in each year, 1st in the month of March and second in August. ♦ The quantities of growth and residual quota were worked out by 25th Feb. each year and notified to put into auction. ♦ A bidder was allowed to bid upto maximum of fifteen percent (15%) of quantities offered in the auction which were not to be less than an economic lot. ♦ Quotas were offered for 	<ul style="list-style-type: none"> ♦ In 2000, 3 auctions shall be held i.e. in March, May & July. ♦ The quantities of growth quotas shall be auctioned in these auctions. ♦ 50% of the tot. Growth quantity shall be placed in 1st, and 25% each in 2nd and 3rd auctions. ♦ Auction of residual quantities shall be notified by EPB separately. ♦ Exporters who will purchase residual 	<p>The objective of the auction of the quota should not be to earn revenue for the Govt. rather it should be to facilitate exporters (existing/new ones), so that they could be competitive enough to compete in the international markets and to make more earnings for the country.</p> <p>Rather to put every category in the auction, only those categories should be placed in auction where utilization was higher than 90% in the preceding year.</p> <p>Along with floor price, there should also be a ceiling price for any category to be placed in the auction, so that price speculation and higher quota cost for the exporter could be controlled.</p> <p>Auctioned quantity of quota should be related</p>

	<p>bidders in descending order basis till the entire quantity was exhausted.</p> <ul style="list-style-type: none"> ♦ Quotas allocated through auction were non-transferable. 	<p>allocation to bidders in descending order of auction price basis.</p> <ul style="list-style-type: none"> ♦ Quotas allocated through auction were non-transferable and valid for shipment only upto 31st December, for same year. 	<p>quota in auction will utilize the same for shipment in the relevant categories. Swing and inter category transfers of such quotas will be allowed for shipment.</p> <ul style="list-style-type: none"> ♦ Those who will purchase quota in an auction will not be entitled to any compensation in case if it will be decided to open that category for allocations on FCFS basis later on. ♦ A bidder will be allowed to bid for upto maximum of 20% of quantities offered in the auction. ♦ Auction quotas will be offered for allocation to bidders in descending order of auction price basis. ♦ Quotas allocated through auctions will be non-transferable. 	<p>with the minimum export price in that specific category.</p>
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	1996	1997-98	2000	Comments / Analysis
Textile Associations	<ul style="list-style-type: none"> ♦ Associations were associated with the management of textile quotas as per directions of the TQMD 	<ul style="list-style-type: none"> ♦ Were associated with the management of Textile Quotas as per directions of EPB 	<ul style="list-style-type: none"> ♦ The responsibility of allocation and authentication of textile quotas is assigned to Textile Associations. ♦ In order to check any malpractice in quota 	<p>As textile associations are now responsible for record keeping of quota pass-books and quota allocations / authentications to their members, these associations can perform more important role in the quota management systems.</p> <p>Quota trading and artificial price raising in different categories can be discouraged with the cooperation of these associations. If these</p>

			<p>affairs, audit practice was initiated by professional Chartered Accountants on regular basis. Penal action is taken in case of any malpractice in allocation, authentication of quota by the Association.</p> <ul style="list-style-type: none"> ◆ Only such Textile Associations, who handle quota over 15% in a particular category shall be authorized to deal with such category in year 2001 onwards. Any association which does not handle quota upto 15% in a particular category shall not be eligible to handle that category. 	<p>associations take the initiative to install on-line computer network in all of their regional offices, where the offers of intending quota sellers will be displayed, including the quantities and offer prices and where intending quota buyers will request for transfers on the basis of displayed offers.</p> <p>Similarly, the requests from intending buyers along with their required quantities and offers will be displayed and both parties can buy / sell quota, as per their individual requirements, without involving brokers (who may stipulate the prices artificially). Any such transactions can be easily managed through the online network of associations. In this way free information access will also be available to every one, and those problems will be eliminated which are created only because of the hide of the information.</p>
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	1996	1997-98	2000	Comments / Analysis
Transfer of Quotas	<ul style="list-style-type: none"> ◆ Quotas allocated to performance holders or purchased from the open market were transferable ◆ Quotas allocated through auctions were non-transferable 	<ul style="list-style-type: none"> ◆ Quotas allocated to performance holders or purchased from open market were transferable. ◆ Quotas acquired through the auctions were not be transferable. 	<ul style="list-style-type: none"> ◆ Quotas allocated to exporters on performance and purchased from open market, shall transferable ◆ Quotas acquired through the auctions and FCFS (where allocation is for one time use only) shall not be allowed to transfer. 	<p>Transfer of Quota should be flexible with following objectives:</p> <ul style="list-style-type: none"> ◆ To facilitate optimum utilization of quotas as a whole by providing flexibility to the trade; ◆ To provide opportunity for firms without or with insufficient quotas to obtain them, thereby creating a channel for new entrants; ◆ To encourage the movement of quotas from the hands of those who are no longer able to use them to those who are able to use them. <p>However, transfer of quotas should be</p>

			<ul style="list-style-type: none"> Exporters who open new category Pass Book with Transfer-In shall have to ship 90% of the quota transferred-In. Transfer-Out from new category Pass Book shall not be allowed in excess of 10% to total quota.. 	discouraged, if such transfers are made with the intention to just trade in quota, hold them unnecessarily for longer time periods and causing artificial higher prices for the real manufacturers-exporters.
Security Deposits	<p>Allocation of quotas to all exporters was made against security deposits:</p> <p>First Quarter Nil Second Quarter Nil Third Quarter 1% Fourth Quarter 1% additional</p> <p>The calculation basis for these deposits were average FOB prices in the preceding year.</p> <p>These deposits were refunded after full export performance and were liable to forfeiture in proportion to the deficiency in performance</p>	<p>Allocation of quotas to all exporters was made against security deposits:</p> <p>First Quarter Nil Second Quarter Nil Third Quarter 1% Fourth Quarter 1% additional</p> <p>The calculation basis for these deposits were average FOB prices in the preceding year.</p> <p>These deposits were refunded after full export performance and were liable to forfeiture in proportion to the deficiency in performance</p>	<p>Allocation of quotas to all exporters shall be made against security deposits:</p> <p>First Quarter Nil Second Quarter Nil Third Quarter 0.5% Fourth Quarter 1%</p> <p>The calculation basis for these deposits will be average FOB prices in the preceding year.</p> <p>These deposits shall be refunded on completion of export after full export performance and were liable to forfeiture in proportion to the deficiency in performance.</p> <p>There shall be no security deposit for quota obtained through auction or quota reserved on FCFS basis.</p>	Probably this is one of the main reasons of less quota utilizations during the previous years that there are no serious penalties imposed against non-utilization of allocated quota to any exporter. If the amount of required security deposits is raised then this can give a push to individual exporters to plan their quota management more efficiently.

	1996	1997-98	2000	Comments / Analysis
Surrender of Export Authorization Quota Pool	<ul style="list-style-type: none"> QPS scheme was to deal with those surrendered quota quantities, which 	<ul style="list-style-type: none"> Export quota holders were eligible to surrender their authorization upto the 	<ul style="list-style-type: none"> Quota holders will be eligible to surrender their performance quota up to the 15th 	During the course of a year, a quota holder may find that it is unable to utilize its allocation fully. To ensure maximum utilization of the quotas as a whole, the quota holders should be encouraged to

<p>Scheme(QPS)</p>	<p>were not put in auction.</p> <ul style="list-style-type: none"> ◆ The purpose was to deposit surrendered quota in a pool for use by the needful as and when required under certain penalty and performance clauses. ◆ Effective period defined was from 1st July to 15th Dec. ◆ Following incentives were defined for surrendering: <ul style="list-style-type: none"> (a). Refund of 75% security until the 1st December. (b) 25% of the surrendered quantity was allowed to be carried over to next year in addition to the normal carry over facility. ◆ Allocation under this scheme was non-transferable. ◆ Certain penalties were imposed for the companies who do not utilize this quota. ◆ Very simple procedure was described for allocation and surrender under this scheme ◆ Allocations made under Quota Pool Scheme were for shipment purposes 	<p>31st July with full refund of security deposits.</p> <ul style="list-style-type: none"> ◆ Upto 31st August with seventy per cent (70%) refund of security deposits. ◆ Upto the 30th September with fifty per cent (50%) refund of security deposits. 	<p>September 2000, without forfeiture of security deposits.</p> <ul style="list-style-type: none"> ◆ The responsibility of textile associations is assigned to immediately provide details of such surrender of quotas to QSC for placing the same on first come, first served basis. 	<p>surrender the unutilized quotas as early as possible so that they can be made available to other exporters under the free quota schemes.</p> <p>In this regard, some certain incentives should be given to surrenderer as well and the late surrenders should be imposed with penalties.(For Ref: Philippines Quota Policy)</p>
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	only and were not counted for towards 'performance' for purpose of entitlement in the following year			
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	1996	1997-98	2000	Comments / Analysis
Over Programming Scheme	<ul style="list-style-type: none"> ♦ The objective of this scheme was to accelerate the pace of utilization of slow-moving quota categories and fast moving quota categories. ♦ Some important points are as follows: <ol style="list-style-type: none"> 1. Additional allocation upto 10% of performance to exporters of relevant categories of their authenticated entitlement was allowed in those categories where there were no over shipments. 2. Over programming was included admissible percentage of carry-forward given in each Bilateral Agreement after availed by the exporters. 3. Quantities transferred out were not counted for additional allocation and this facility was available only on one time basis and was not to be treated as performance 4. Quota categories of 	The same scheme was to be continued in the quota year 1997-1998. However, the definitions of slow moving categories and fast moving categories were changed slightly, which are given below.	In the Quota policy for the year 1999/2000, there are no details available about any such scheme.	

	over shipments were not included in this scheme.			
Slow-moving Categories	Those categories, where utilization by 31st October was 60% or less were defined as Slow-moving categories.	Those categories, where utilization by 30 th September was 60% or less.		
Fast-moving Categories	Those categories, where utilization by 31st October was more than 60% were defined as Fast moving categories	Those categories, where utilization by 30 th September was more than 60%.		

	1996	1997-98	2000	Comments / Analysis
Flexibilities	Exporters were entitled to the flexibilities (Swing & Shift, Carry-over, Carry-forward) on their authenticated entitlements including quotas obtained through auctions.	Flexibilities (Swing & shift, carry over, carry forward) were allowed on authenticated entitlements including quotas obtained through auctions and was decided to be finalized by 31st March each year to give ample time to exporters for planning.	Quota Supervisory Council shall announce the % of flexibilities on the first day of January each year. Exporters shall be entitled to utilize the flexibilities, after physical shipment of at least 70% of quota.	
Swing and Shift	Exporters were allowed to avail upto admissible percentage of their authenticated entitlement in the receiving category by surrendering equivalent quota in permissible categories.	Exporters were allowed to avail admissible percentage of their authenticated entitlement in the receiving category by surrendering equivalent quota in permissible categories.		
Carry Over	Exporters were allowed to carry over in Dec. for admissible percentage of their quota entitlement for use in the following year for the same category subject to the following: 1. Only those exporters	Exporters were allowed to carry over admissible percentages of unused portion of their quota entitlement for use in the following year for the same category. Separate colored sheets with	Exporters shall be allowed to carry over admissible percentages of unused portion of their quota entitlements for use in the following year for the same category Performance holders who	

	<p>were eligible who have already exported at least 85% of their entitlement.</p> <ol style="list-style-type: none"> 2. Separate colored sheets were added in the existing pass books for effecting entries relating to carry-over. 3. An exporter who failed to utilize the carry-over quota in the following year was required to surrender equal quantity of unperformed portion of carry over out of his regular entitlement in the subsequent year. 4. The carry-over quantities were subject to usual security deposits and were made non-transferable. 5. No carry over was allowed to an exporter in a subsequent year if that exporter has not performed against carry-over allocation of the preceding year in that category. 6. No special carry over of un-utilized quotas was allowed under any 	<p>consecutive page numbers were added to the existing Quota Pass Books on which necessary entries relating to carry over were made.</p>	<p>have shipped seventy per cent or more of their authenticated entitlement during the quota year shall be eligible for carry over. Separate colored sheets with consecutive page numbers shall be added to the existing quota category pass books on which necessary entries relating to carry over shall be made for shipments only.</p>	
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<p>Carry Forward</p>	<p>circumstances. Exporters were allowed to advance use of quotas up to the admissible percentage, of their authenticated entitlements, subject to the following: 1. This facility was only be admissible to those exporters who have fully utilized their authenticated quota and has not transferred allocation more than the admissible percentage of carry-forward. 2. Quantities transferred out were not counted toward this facility.</p>	<p>Exporters were allowed to advance use of quotas upto the admissible percentage specified in bilateral agreements, of authenticated entitlement, provided they have made shipments up to seventy five percent (75%) of their authenticated entitlement.</p>	<p>Exporters shall be allowed to carry forward quotas up to the admissible percentage of authenticated entitlement, subject to the condition that this quota shall not be transferable.</p>	
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Along with above-mentioned detailed comparison of latest quota policies, another brief comparison of all the quota policies which have been implemented, from time to time, in the past ten years has also been done. The objective is to trace back stability pattern in quota management. It is visible in the comparison matrix that majority of the policies were formulated for a period of 3 to 5 years, none of which was implemented for the specified period. Different Governments resorted to frequent changes in quota policies, which has resulted in a dismal growth performance of the textile industry. This is a contributing factor inhibiting the foreign buyers as well as the investors from coming to Pakistan, as it reflects inconsistency of policy framework in the country.

Quota Policies of Pakistan Comparison

Attributes	Year 1992-93	Year 1994	Year 1995	Year 1996	Year 1997-98	Year 1999-2000
Management	EPB	TQMD	TQMD & Joint Supervisory Council	TQMD & Joint Supervisory Council	EPB & Joint Supervisory Council	QSC, PGCs and EPB
Allocation Basis	Performance Holders: 50% Q:50% V	Only on Quantity based	Only on Quantity based	Only on Quantity based	1 st Year: 75% Q:25% V 2 nd Year:65% Q:35% V 3 rd Year onward: 50% Q:50% V	Based on Quantity
Residual Quota	Through auction	Through auction and non-transferable	Through auction and transferable	Through auction and non-transferable	Growth and residual quota both through auction and non-transferable	Growth and residual quota both through auction and non-transferable
Special Allotment	For grey cloth 2/3 rd of growth to Powerloom Associations	For grey cloth 2/3 rd of growth to Powerloom Associations	For grey cloth 2/3 rd of growth to Powerloom Associations	No Provision	No Provision	No Provision
Quota Transfer	Transferable	-For performance holders transferable -non performance holders, not transferable	-For performance holders transferable	-performance and open market transferable -auction quota non-transferable	-performance and open market transferable -auction quota non-transferable	-performance and open market transferable -auction quota non-transferable -New pass book holders have to ship 90% of quota allocated.
Quota Incentive	Not Available	For shipment 80% or above,	Not Available	Not Available	Not Available	U. Price 25%+: 5% add. Quota U. P. 15-24%:

		additional quota 5%				3% add. Quota U. P. 5-14%: 2% add. Quota
Security Deposits	Ist Quarter Nil 2 nd Quarter 1% 3 rd Quarter 2% Add. 4 th Quarter 4% Add.	Ist Quarter Nil 2 nd Quarter Nil 3 rd Quarter 1% 4 th Quarter 4% Add.	Ist Quarter Nil 2 nd Quarter Nil 3 rd Quarter 1% 4 th Quarter 4% Add.	Ist Quarter Nil 2 nd Quarter Nil 3 rd Quarter 1% 4 th Quarter 1% Add	Ist Quarter Nil 2 nd Quarter Nil 3 rd Quarter 1% 4 th Quarter 1% Add	Ist Quarter Nil 2 nd Quarter Nil 3 rd Quarter 0.5% 4 th Quarter 1%
Surrender	Upto 31 st July with full refund and Upto 30 th September 75% refund	Management Through Quota Pool System	Management Through Quota Pool System	Management Through Quota Pool System	Upto 31 st July refund Upto 31 st Aug. refund Upto 30 th Sep. refund	Upto 15 th September with full refund
Newcomer	No provision	-10% of growth quota for new units -25% of growth quota for rural areas and transferable	-10% of growth quota for new units -25% of growth quota for rural areas and transferable	-10% of growth quota for new units -25% of growth quota for rural areas and transferable	All discretionary quotas abolished including new units and rural areas.	No Provision
Minimum Export Price	No Provision	Provision Available	Provision Available	N/A	N/A	N/A
First Come First Served	N/A	N/A	N/A	Categories with utilization below 60% will open for FCFS after shipment	Categories with utilization below 90% open for FCFS after shipment	-Categories with utilization below 80% open for FCFS. 30% against bank guarantee and 70% after shipment One time use,

						non-transferable
Over Programming Scheme	N/A	N/A	N/A	To maximize quota utilization	To maximize quota utilization	
Provisional Quota	N/A	N/A	N/A	N/A	Up to 50-70% before final allotment by 31 st March	90% Provisional allocation on Jan. 01.

11.8. Recommendations

11.8.1. Time Period for Quota Policy

Quota policy should be formulated and implemented keeping a long-term textile development perspective in view. The policy should serve the purpose of an effective tool in directing the textile sub-sectors towards maximum utilisation of resources and value addition. Steps should be taken to ensure that the policy is not scrapped before the completion of its tenure.

11.8.2. Quota Negotiations

The quota negotiations with the importing countries should be in-line with the development objective of the textile industry. The potential export categories, which are likely to lead the future thrust of growth, should be negotiated on favorable terms leading to enhanced quotas.

11.8.3. Basis for Quota Allocations

To achieve the export targets of post quota scenario and to enhance our share in the global textile trade, increase in unit price realisation through quality enhancement is a must. This can only be achieved by an effective quota policy designed to promote value addition. All Quota allocations to the exporters should be made by taking into consideration the past performance of quantities exported as well as the unit value achieved against that quantity and gradually the proportion of quota allotment on the basis of unit value should be increased. The quota policy should also have provisions to facilitate the new manufacturers/exporter. This entitlement should be allocated from within the past performance (allocation on quantity) portion of the total quota available. The proposed ratio is as follows:

- **Year 2001:** Past Performance = 75%
Unit Value = 25%
- **Year 2002:** Past Performance = 50%
Unit Value = 50%
- **Year 2003:** Past Performance = 25%
Unit Value = 75%
- **Year 2004:** Past Performance = 0%
Unit Value = 100%

11.8.4. New Exporters:

Prior to 1996, the quota policies had provision for entitlement for new entrants, this practice was discontinued later. The bulk of the quota is allocated to existing exporters, and the growth quota is auctioned to earn revenue for Govt. It is difficult for new exporters to 'break into' the quota allocation system. Purchasing quota either from auction or from the market renders their exports non-competitive in the international markets. Probably, this is one of the main reasons that during the last few years which has impeded the growth of the apparel industry, predominantly representing the small sized stitching units.

To encourage new manufacturers/exporters and to encourage the expansion of existing industry, a fixed percentage of growth quota should be allocated to those manufacturers/exporters who invest a minimum certain amount in new machinery either in an existing manufacturing setup and / or in the establishment of new unit.

11.8.5. Quota Incentive for Product / Market Diversification:

Narrow export base has been a major hindrance in the growth of textile industry. The incentive system should focus on product diversification and market diversification. Quota policy can play a vital role in this regard, exporters of textile products to non-quota countries and non-quota products to quota countries (with a condition of minimum export performance on the basis of value and quantity) should be made eligible for a certain percentage of additional quota allocation.

11.8.6. Quota Transfers

In order to discourage quota trading and to control the artificial raise in quota prices, the transfer of quotas should be generally discouraged and limited to a bare minimum level with certain conditions.

The only objective behind the transfer of quotas should be to encourage the movement of quotas from the hands of those who are not able to utilise them to those who are able to use them efficiently. The transfer of quota should be conditioned with the minimum utilization requirement and further transfer of quota should be restricted for a fixed time period. Exporters, who are not able to fully utilise their quota, should be allowed to surrender their quota holdings in the early time period of quota allocation and penalties be imposed on under-utilisation of quotas to a certain percentage limit.

11.8.7. Quota Information:

Quota allocation and utilization figures of individual companies should be updated weekly and should be published or made publicly available through QSC/EPB web site, to ensure transparency in quota management. This is to discourage quota trading and artificial price hike in the popular quota categories.

12.WTO and textiles

12.1. Introduction

The purpose of this report is to analyze the impact of implementation of World Trade Organization's (WTO) Agreement on Textiles and Clothing (ATC) on Pakistan. At first, an overview of the series of global arrangements has been given that have governed the global trade in textiles and clothing. Multi Fibre Arrangement (MFA) regime specifically has been discussed in detail to develop a background of the ATC. The extent to which the Agreement on Textiles and Clothing has been implemented is also discussed along with the criticism of various country/region policies. The discussion in this report is supported by country/region-wise data. The focus of the study revolves around textile sector and to evaluate the effect of ATC on Pakistan's textile sector. We have selected major Asian exporters to be an integral part of the study as they are our major competitors. USA and EU, being the major importers are also discussed in detail.

This study by no means is an exhaustive research on ATC and its impact on Pakistan's textile sector. It is based on a basic analysis of policy matters of major importing and exporting countries. An effort has been made to evaluate the possible impacts of ATC on Pakistan's textile sector through a simple research exercise.

12.2 Overview

The world followed a liberalised trade regime when it followed the gold standard system of international trade between 1860 and 1914. However, the system was suspended after the First World War because of the high disparity in the gold reserves of the affected countries. During the inter-war period, every country tried to restrict its imports and encourage its exports. To achieve the purpose, each country devalued its currency, such that the successive devaluation's lead to a non-existent global exchange-rate regime. In the period following World War II, a major part of international trade was governed by complex national trade regimes. Post-war balance-of-payments difficulties in a number of developed countries were cited to justify high tariffs, complicated customs administration, complex import licensing procedures and yet another wide range of quantitative restrictions. During the 1950s, however, trade restrictions were reduced as a result of general trade liberalisation efforts pursued in the GATT and by the IMF.

Efforts under the GATT to liberalise trade have always met with particular difficulties in textiles and clothing. For more than thirty years, this sector was governed by special regimes: the Short Term Cotton Arrangement in 1961, the Long Term Cotton Arrangement from 1962 to 1973, and the Multi Fibre Arrangement (MFA) from 1974 to 1994. In 1986, after more than three decades of increasingly complicated trade systems, it was decided to include the textile sector within the scope of the Uruguay Round multilateral trade negotiations.

12.3. The Cotton Arrangements (1961 –1973)

During the 1950s, trade restrictions were reduced as a result of general trade liberalisation efforts pursued in the GATT and by the IMF. The gradual removal of quantitative restrictions resulted in the easing of balance-of-payment difficulties in the developed countries. As a result, many developing countries emerged as exporters of textiles and, to a lesser extent at that time, clothing. They were benefiting from access to cheaper raw materials and relatively low production costs, particularly wages, resulting in a rapid increase in the volume of exports of cotton textiles and clothing to the developed country markets. The sharp increase in low value imports of cotton textiles adversely affected investment and employment in the developed countries, which faced the prospect of rapid closure of production facilities in the sector leading to serious social problems. To alleviate the difficulties, some developed countries negotiated with individual governments to arrive at bilateral agreements ("voluntary export restraint" agreements) to limit the quantities of exports of cotton textiles.

In 1959 a study was proposed in GATT to find multilateral solutions to the problems that were being faced by the textile trading countries. Among the important problems were:

- A sharp increase or potential increase of imports of particular products from particular sources;
- These products are offered at prices which are substantially below those prevailing for similar goods of comparable quality in the market of the importing country;
- There is serious damage to domestic producers;
- The price differentials discussed above do not arise from governmental intervention in fixing or formation of prices or from dumping practices.

Since such arrangements covered textiles and clothing from cotton products only, so they were referred to as The Cotton Arrangements. Such arrangements were an array of bilateral trade agreements restricting exports through the quota system.

12.4. The Multi Fibre Arrangement (1974-1994)

The Multi Fibre Arrangement (MFA), more formally the Arrangement Regarding International Trade in Textiles, entered into force in 1974. It extended the coverage of the restrictions on textiles and clothing from cotton products to include wool and man-made fibre products. In 1986, certain vegetable fibre products were also included.

12.4.1. Objectives of MFA

The “stated” objectives of the MFA were as follows:

- To achieve the expansion of trade in textiles and clothing.
- The reduction of barriers to such trade.
- Progressive liberalisation of world trades in textile products, while at the same time ensuring the orderly and equitable development of this trade.
- Avoidance of disruptive effects in individual markets and on individual lines of production in both importing and exporting countries.
- To further the economic and social development of developing countries and secure a substantial increase in their export earnings from textile products and to provide for a greater share for them in world trade in these products.

However, the fact remains that the actual purpose of MFA was to protect the textile and apparel industries of the developed world from the low cost competition of the products from the developing world.

12.4.2. Functioning of MFA

The MFA, similar to the cotton arrangements, provided rules for the imposition of quotas, either through bilateral agreements or unilateral actions, when surges of textile imports caused market disruption or threat in the importing countries. While imposing quotas or introducing and maintaining restrictions on exporting members, it was mandatory for the importing country to observe consultation provisions and follow specific rules and standards in determining a situation of market disruption. As a norm, the importers were required to allow for an annual growth rate of six per cent in the quotas. A statutory body, the Textiles Surveillance Body (TSB), carried out a monitoring and reporting function and also handled cases of disputes. The MFA terminated on 31 December 1994 upon the entry into force of the WTO and its Agreement on Textiles and Clothing on 1 January 1995.

12.4.3. Developments in the Multi Fibre Arrangement

During its 21 years, which is from 1974 to 1994, there were changes and adaptations in the operation of the Arrangement. According to the changing global needs, extensions of the MFA were negotiated a number of times, in the course of which new provisions were added and new products included. However, the growth rate of six per cent in quotas envisaged in the MFA was in many cases sharply reduced in practice in bilateral agreements. The bilateral quotas under the MFA were negotiated at short intervals, often every year or so. In its last years of operation, the major MFA participants applied quotas under the Arrangement, to varying degrees in terms of products covered and countries affected. The quota growth rates were as low as less than 1% in some cases and as high as 10% in some other cases. In fact, MFA was used almost exclusively to protect against imports from developing countries. However, Switzerland and Japan, who were members of the MFA, had no restraint agreements. Sweden dropped all of its restraints and withdrew from the MFA in 1991. However, quotas for imports into Sweden were reintroduced when it joined the European Community in the year 1995.

At the outset of the liberalization in 1994; Austria, Canada, the European Union, Finland, Norway and the United States together had 145 bilaterally agreed or unilaterally imposed restraints on developing country and transition economy exporters of textile and clothing products. Although the MFA had only 44 signatories, (China was among MFA members but not a signatory of GATT), one third of the GATT membership, these were the most important countries in the world of textiles and clothing trade.

See ANNEX I for a list of MFA members.

12.5. Effects of MFA Regime

It is difficult to quantify the effects of the MFA quota restrictions since not all textile and clothing products were restricted; some quotas were not fully used; and not all sources of product were restricted. For example, the International Textile and Clothing Bureau estimates that about one-third of EU and USA imports of textiles and clothing were in categories not restrained by the MFA. However, in a broader context, the following effects were noticeable.

12.5.1. Shifting patterns of global production

As a result of quotas and other restrictions of MFA, investment in new facilities was made in the less-restricted or unrestricted exporting countries. This shift in production and export activity led to demands in the industrialized countries for yet more restrictions covering a greater number of countries. This was followed by further shifts of production facilities to other unrestricted countries. As a result, a repeated pattern of expanding and shifting production occurred. This also served to expand global production capacity. However, due to the expanding market, the original predominant suppliers were able to sustain their production levels. This shifting production and export pattern stimulated the growth of industries in those countries that may not have entered the international market as exporters in absence of MFA.

12.5.2. Investment by developed countries

Heavy investment by developed countries in automated equipment was undertaken in the textiles sector in order to reduce their per unit costs of textile products. As a result, textile industries in the developed nations became one of the most capital-intensive areas within the manufacturing sector.

12.5.3. Upgrading of quality

Developing countries were subject to quantitative restrictions under MFA. In order to get the maximum gain out of their prescribed quotas, they upgraded the quality of their textile and clothing exports to fetch better prices. In shifting their exports to the higher end of the quality range, they forced competition to move from lower value high volume products to the more sophisticated ones.

12.5.4. Circumvention of quotas

It is a practice developed in some exporting countries to avoid quotas. It was being done by the transshipment of goods through third countries and/or false declarations of origin in order to achieve greater exports. This practice was stimulated in the later years of the MFA and led to increasing concern in the importing countries. Such practices harmed the local industry of importers even in the presence of MFA.

12.5.5. Transparency and predictability

On the positive side, the MFA provided transparency as well as a degree of predictability in the production and trade of textiles and clothing products. The exporting countries knew in advance the quantities they can export and hence could manage their production accordingly and plan for their future production facilities. The similar was the case with the importers.

12.5.6. Vested interests

The MFA and the bilateral agreements under it created vested interests in both the importing and the exporting countries. The exporting country had a guaranteed market share irrespective of its competitiveness. The cost of protection was reflected in terms of higher prices in the importing countries thus shifting the burden onto the consumers.

12.6. The WTO Agreement on Textiles and Clothing (ATC)

Trade in textiles and clothing has been highly distorted as discussed earlier. MFA was a deviation from the general preferences of GATT, for example, the principles of tariffication* and non-discrimination** were not being followed. In the circumstances that prevailed, it was not possible to bring this sector into normal GATT rules. However, on 1st January 1995, it was decided to carry over all the quotas and growth rates of MFA to the WTO's Agreement on Textiles and Clothing. It was also decided to bring the textile sector under the normal GATT/WTO rules by giving the countries a transition period of ten years. The purpose of giving ten years was to allow both the importers and exporters to adjust themselves to the upcoming international trade era that was to set in as a result of WTO agreements.

This transition is taking place in four stages spread over ten years, starting from 1st January 1995 and ending on 1st January 2005. In each stage, the importing countries are required to integrate a specific percentage of restrained products into normal GATT rules and also increase the quotas of remaining restrained products at an agreed upon increasing growth rate. Thus, this agreement calls for the following two concurrent actions in each stage.

- Integration of a specific percentage of restrained products; involving removal of quotas.
- Acceleration of annual growth rates of quotas for remaining restrained products.

The ATC also calls for elimination of all other restrictions that are not justified under the WTO provisions. Moreover, all WTO members are required to improve market access for products of other countries. In the first step, on 1st January 1995, members were required to integrate at least 16 per cent of the total volume of their 1990 imports (base year) into normal GATT rules. If any of these products had quotas, they had to be eliminated. Along with this, the importing countries were required to increase the quotas of remaining restrained products by a minimum percentage during each year of the stage by following a "growth-on-growth" process. During the first stage, increasing the former MFA growth rate by 16% was required to arrive at the minimum percentage growth rate. In the second stage, the resulting growth rate of stage 1 had to be increased by 25%. And finally in the third stage, the resulting growth rate of second stage had to be increased by a factor of 27%.

* Tariffication is a process by which all the non-tariff barriers are to be converted to tariffs. Tariffication says "NO" to non-tariff barriers in any shape (except for special circumstances).

** Treating all WTO members on the equal grounds.

The agreed MFA growth rate was 6%. However, the actual growth rates ranged from less than 1 percent up to 10% with a majority lying between 3 to 6%. To illustrate the process discussed above, the agreed MFA growth rate of 6% has been chosen. The resulting implementation schedule is as follows:

Table 12.6.1: The 10-year schedule for integrating the sector into GATT rules

Stage number	Percentage of products to be brought under GATT rules; including removal of any quotas (taking 1990 imports as base)	Growth rate for remaining quotas	Applied growth rates (Based on 6% rate under MFA)
Stage 1: 1 Jan 1995 (to 31 Dec 1997)	16% (minimum)	Existing growth rate * 16%	(6% * 1.16) =6.96% per year
Stage 2 : 1 Jan 1998 (to 31 Dec 2001)	17% (minimum)	Growth rate of stage 1 * 25%	6.96% * 1.25 =8.7% per year
Stage 3 : 1 Jan 2002 (to 31 Dec 2004)	18% (minimum)	Growth rate of stage 2 * 27%	8.7% * 1.27 =11.05% per year
Stage 4 : 1 Jan 2005 Full integration into GATT and final elimination of quotas. (ATC terminates)	49% (maximum)	<i>All the remaining quotas are eliminated</i>	

During the first stage, the quota growth rate had to be 6.96%. This percentage was arrived at as follows:

$$6\% * 1.16 = 6.96\%$$

$$(6\% \text{ MFA growth rate increased by } 16\%)$$

First stage was completed on 31st December 1997 and the beginning of second stage was marked on 1st January 1998. A further 17 per cent of 1990 imports had to be integrated in this stage accompanied by an increase of 25% in the quota growth rate. This made the quota growth rate to be 8.7% per year (6.96 * 1.25) to be adopted till 31 December 2001 and a total of 33% of the products being integrated (16% in stage 1 and 17% in stage 2). In the third step, beginning on 1st January 2002, the importing countries will have to integrate a minimum of 18% into the normal GATT rules and thus a total of 51% of the products will be integrated. The quota growth rate will have to be increased by 27% as compared to last stage's growth rate. Hence it will become 11.05% per year (8.7% * 1.27) to be used until this stage ends on 31st December 2004. The quota rates discussed and the percentage of the products to be integrated are the minimum limits and members can apply higher rates. On 1 January 2005, all the remaining products (a maximum of 49%), that were not integrated during the first, second or third stage will have to be integrated and all the quotas will cease to exist. On that day the Agreement on Textiles and Clothing itself is to disappear. The completion of this agreement also means observing the GATT principle of non-discrimination.

The increase in quota growth for each country depends on the prior MFA growth rate that serves as the starting point. The growth rates presented in the Table 12.6.1 were for a 6% MFA growth rate. For other MFA growth rates, the following Table 12.6.2 presents growth rates that will be applied in each stage:

Table 12.6.2: Growth Rates

MFA Growth Rates	Stage I	Stage II	Stage III
	16% increase 1995-97	25% increase 1998-2001	27% increase 2002-2004
Percentages			
1	1.16	1.45	1.84
2	2.32	2.9	3.68
3	3.48	4.35	5.53
4	4.64	5.8	7.37
5	5.8	7.25	9.21
6	6.96	8.7	11.05
7	8.12	10.15	12.89

Each WTO member that has restrained imports using MFA quotas is given the right to decide on that what products are to be integrated in each stage but subject to the condition that they cover at least one product from each of the four groups.

- Tops and yarns
- Fabrics
- Made-ups
- Clothing

The products to be integrated during the second and third stage had to be notified to Textiles Monitoring Body (to be discussed later) at least one year prior to the commencement of each stage. As products are integrated into GATT in each stage, any quotas imposed on them will be removed. The remaining quotas will increase in each year at an increasing rate through out the agreement. This process continues till 1st January 2005 such that all the quotas are eliminated and all the products are integrated into normal GATT rules. On that day, the Agreement on Textiles and Clothing will itself be eliminated and the importing countries will not be able to discriminate among the exporting countries. There shall be no extension of this agreement. Thereafter, emergency actions can only be taken as provided in normal GATT rules.

Though the agreement mainly focuses on MFA restrictions but those non-MFA restrictions, which are not justified by the GATT rules, have also been covered. ATC requires that these restrictions are to be brought in conformity with GATT rules within one year of the implementation of the agreement or will have to be phased out within the life of the agreement, that is, by 1st January 2005.

12.6.1. Purpose of ATC

The purpose of this agreement is that all members shall take actions in the area of textiles and clothing as may be necessary to abide by normal GATT rules so as:

- To expand the global trade.
- To improve market access for all WTO members.
- To improve the safeguard mechanism.
- To give both the importers and exporters enough time to adjust themselves according to the new situation.
- Ensure the application of policies related to fair and equitable trading conditions.
- Avoid discrimination against imports when taking measures for general trade policy reasons.

12.6.2. Coverage

Product coverage under ATC is much wider than the coverage of the MFA. It includes all textile and clothing products whether or not they are subject to restrictions; fibres of vegetable, man-made or animal origin. This means that trade in products made of pure silk and of vegetable fibres that were not included in the MFA were also included. The Agreement also covers certain products with textile components including luggage, footwear uppers, umbrellas, watch straps, parachutes etc. ATC encompasses Chapters 50 to 63 of the Harmonized Commodity Description and Coding System (HS) and some specific products from Chapters 30 to 49 and 64 to 96. ATC coverage begins with the first manufacturing process and therefore raw natural materials such as silk, cotton, wool are excluded.

See ANNEX II for a comprehensive list of products covered.

12.6.3. Supervision, Monitoring and Reporting of ATC

There are two WTO bodies involved in the monitoring and implementation of ATC. They are:

- Textiles Monitoring Body (TMB)
- Council on Trade in Goods (CTG)

TMB works solely for one purpose, that is, the implementation of ATC. On the other hand, CTG performs other functions as well including trade in non-textile goods. Their functioning are discussed as under.

12.6.3.1. Textiles Monitoring Body (TMB)

The Textiles Monitoring Body (TMB) has replaced the Textile Surveillance Body (TSB) of the MFA. It is given the task to oversee the implementation of the ATC and to make sure that the rules are faithfully followed. It is a quasi-judicial standing body. WTO members agreed on 1st January 1995 that TMB would consist of ten members and one Chairman. These ten seats were to be shared among the major textile players on the basis of certain constituencies. TMB membership is given on a rotational basis such that it serves the purpose of a balanced and broad representation. All the decisions are arrived at by consensus. During the first stage, one member was chosen from each of the following constituencies.

- a. The ASEAN member countries.
- b. Canada and Switzerland in year 1, then Canada and Norway in year 2 and 3.
- c. Pakistan and China (after accession).
- d. The European Communities.
- e. Korea and Hong Kong.
- f. India and Egypt/Morocco/Tunisia.
- g. Japan.
- h. Latin American and Caribbean Members.
- i. The United States.
- j. In the first year, Norway Turkey and Czech Republic/Hungary/ Poland/Romania/Slovak Republic. Then in the second and third years, Turkey, Switzerland and Czech Republic/Hungary/ Poland/Romania/Slovak Republic.

There is rotation within the constituencies. The criterion for membership during the second stage was decided in December 1997. Only a few changes were made. One member from each of the following constituencies had to be included.

- a. The ASEAN member countries.
- b. Canada and Norway.
- c. Pakistan and China (after accession).
- d. The European Communities.
- e. Korea and Hong Kong.
- f. India and Egypt/Morocco/Tunisia.
- g. Japan.

- h. Latin American and Caribbean Members.
- i. The United States.
- j. Turkey, Switzerland and Bulgaria/Czech Republic/Hungary/ Poland/Romania/Slovak Republic/Slovenia.

As a contingency plan, provisions were made for alternates to be appointed by the members in each of the constituencies. In some cases, second alternates were also appointed. There are also two non-participating observers from members not already represented in this structure, one from Africa and one from Asia.

Once appointed, the TMB members are expected to serve for ad personam (working in a personal capacity and not representing any one). TMB also deals with the settlement of disputes resulting from ATC. However, if any dispute remains unresolved, it is then brought to the WTO's Dispute Settlement Body (DSB).

12.6.3.1.1. Functions of TMB

In order to supervise the implementation of ATC, the TMB reviews the following:

- Notifications submitted by members regarding quotas in place at the beginning of the transition period.
- Members' program for integration of products into GATT 1994.
- Members' notifications with respect to non-MFA restrictions and their programs for phasing out restrictions not justified under any provision of GATT 1994.
- Bilaterally agreed restraint measures to ensure that they are in accordance with the provisions of the ATC.
- Unilaterally introduced restraints, where an agreement is not reached through bilateral consultation, and making recommendations as appropriate.
- Disagreements over technical or administrative changes or with respect to actions taken in response to allegations of circumvention or false declaration.
- Notifications on actions taken by members in other areas of the WTO, in relation to other specific commitments undertaken in the Uruguay Round to abide by GATT 1994 rules and disciplines.
- Any matter brought to it by members and making recommendations.
- The implementation of the Agreement at least five months before the end of each stage of the integration process and to provide a comprehensive report on this to the WTO Council for Trade in Goods (CTG).

The TMB's recommendations and findings are communicated to the members concerned and are also communicated to the Council for trade in Goods. The members are obliged to accept in full all the recommendations of the TMB.

12.6.3.1.2. Re-examination by TMB

The ATC also has a provision for re-examination of a matter where a WTO member is unable to conform to the recommendations of the TMB. In such a case, the member is required to provide reasons to TMB within one month. TMB will consider the reasons given and issue any further recommendations it considers appropriate. If the matter remains unresolved even after this process, either of the members involved has the right to take the matter before the Dispute Settlement Body for final decision.

The four WTO Members who maintained import restrictions under the former MFA (Canada, EU, Norway and the US) were required to undertake the integration process and to keep notifying to the TMB about their progress on liberalisation. Other WTO Members first had to decide and to notify the TMB if they wished to retain the right to use the transitional safeguard mechanism in the ATC. If so, then they were required to provide their first stage integration list. Fifty-five members chose to retain this right, out of which 37 were former MFA members and the remaining 18 were non-MFA members. Nine members (Australia, Brunei Darussalam, Chile, Cuba, Hong Kong, Iceland, Macau, New Zealand and Singapore) decided not to maintain the right to use the ATC safeguard mechanism. They are considered to have

integrated outrightly from the first day of ATC. The rest of them are required to submit the list of products that they will integrate into the normal GATT rules during each stage.

The countries that had imposed non-MFA restrictions, which could not be justified under the GATT rules, were also required to submit the phase out plan of such restrictions to the TMB. Twenty-seven countries made notifications regarding such restrictions.

12.6.3.2. Council for Trade in Goods (CTG)

The Council for Trade in goods oversees all the WTO agreements that relate to trade in goods. This body is in over all charge of the Agreement on Textiles and Clothing and is the parent body of TMB i.e. the Textiles Monitoring Body is required to report to the CTG. It includes all the members of the WTO and the decisions are taken by consensus. It makes sure that the balance of rights and obligations in ATC is not upset. CTG conducts a major review of the operation of the Agreement before the completion of each stage. TMB assists CTG to accomplish this goal. A major review of the operations of ATC was conducted, when TMB submitted its first report to CTG in July 1997, on the implementation of the first stage of Agreement.

12.6.4. Special provisions under ATC

The purpose of ATC is to liberalize trade without harming the domestic industries of importers. In order to prevent this harm, provisions have been made in the ATC. Such provisions can be used in special circumstances. These provisions will be discussed now.

12.6.5. Special Transitional Safeguard Mechanism

The purpose of ATC is to liberalise trade in such a way that no serious threat is posed on the industry of any member country. If a surge in imports poses a threat to the domestic industry of a WTO member country, then it has been given the right to take necessary actions to protect its industry. Such a mechanism is referred to as "*Special Transitional Safeguard Mechanism*". This clause can be used during the transition period for products which have not yet been integrated into GATT and which are not already under quota. This mechanism is based on a two-tiered approach.

1. The importing member must determine that total imports of a specific product are causing serious damage or actual threat to its domestic industry.
2. It must then decide that which individual member(s) is to be held responsible for this serious damage.

Specific criteria and procedures have been formulated for each step. In making each determination, the importing country must take account of a number of relevant economic factors such as its domestic industry output, productivity, capacity utilization, employment, market share etc. to show the threat to its industry. While hosting to safeguard measures, the importing member must seek consultations with the exporting member(s). Such safeguard measures are preferably applied on a selective, country-by-country basis by bilateral agreements. But if an agreement is not reached through mutual consent within 60 days, then unilateral action can be taken provided the matter is referred to Textile Monitoring Body (TMB) for review and recommendations.

The safeguard mechanism is subject to the following limits:

- The quota may not be lower than the actual level of imports for that exporting country during the 12-month period ending two months before the month in which a request for consultation was forwarded.
- The action taken may remain in place for up to a maximum of three years or until the product is integrated into normal GATT rules, whichever comes first.
- If the measure is in place for more than one year, growth shall be applied at a minimum of 6 percent per year, not subject to any exceptions.

Even the bilateral arrangements are subject to TMB review to make sure that they are in accordance with the provisions of ATC.

In practice, the special safeguard has been invoked as follows:

- **1995:** 24 times (every time by the United States).
- **1996:** 8 times (Brazil 7, US 1).
- **1997:** 2 times (both times by the United States).
- **1998:** 10 times (Colombia 9, US 1).

12.6.6. Special treatment

The agreement envisages special treatment for certain groups of countries. These groups include those countries which have not been MFA members since 1986, new market entrants, small suppliers and least developed countries.

12.6.7. Circumvention of the quotas

Circumvention of the quotas is done through transshipment, re-routing, falsification of official documents or misuse of the provision of "Rules of origin". Rules and procedures have been laid down in the ATC to deal with such violations. These require consultation and full co-operation in the investigation of such practices by the members concerned. When sufficient evidence is available, possible recourse by the affected country might include the denial of entry of goods, adjustment in import charges to reflect the true country of origin or establishment of new quota restraints. There is also a provision in the ATC that requires all the members to establish the necessary legal provisions and/or administrative procedures to address and take action against circumvention in accordance with their domestic laws and procedures. The governments of the countries concerned are required to take all the necessary actions as required to prevent the circumvention. The country whose exporter is found guilty is expected to disclose any information required while tackling the situation and taking the necessary legal action.

12.6.8. Administration of obligations

If an exporting member is found not to be complying with its obligations, the Dispute Settlement Body (DSB) or the Council for Trade in Goods (CTG) may authorize an adjustment to the quota growth for that country as a penalty.

12.7. Analysis of Country Commitments

USA and the European Union (referred to as European Community-EC- in the WTO text) have been discussed here. The reasons for this choice is quiet obvious that these countries remain the major importers of textiles and are among those countries that have highly protected their textiles and apparel sectors. They were also amongst those that had imposed quotas on the developed world under the MFA.

Both the countries are required to open up their markets to textile imports, as has been discussed in the "10-year implementation schedule of ATC". Both these countries are blamed to take shelter under false interpretation of ATC and hence postponing the implementation of the Agreement. They fulfil the requirement of liberalisation without actually liberalising their imports. Their commitments, as submitted to the TMB, will now be discussed.

* Rules of origin affect the determination of which country's quota will be charged for particular imports when the manufacturing process occurs in more than one country.

12.7.1. United States of America

12.7.1.1. Overview

The U.S. textiles and apparel industry employed approximately 1.6 million workers in 1994 and is the largest U.S. industrial employer engaging about 9.0 percent of the manufacturing sector work force. Since the early 1960's, the industry has faced growing foreign competition. The price advantage that low labour costs create in the developing countries continues to be a problem for many U.S. textile and apparel companies. In order to account for this price disadvantage, the textile sector of U.S. has remained highly protected whether it's through MFA or through false interpretation of ATC.

12.7.1.2. Implementation of ATC

In the U.S., the implementation of ATC is being supervised by the "Committee for the Implementation of Textile Agreements", abbreviated as CITA. The Department of Commerce of the U.S. established this committee with a purpose to monitor imports of textile and apparel products and administer these imports in such a way that the damage to the U.S. industry is avoided. CITA supervises the implementation of bilateral trade agreements and at the same time, proposes and implements import restraints under the ATC. It has representation from the following five U.S. agencies:

- 1) State Department
- 2) Commerce Department
- 3) Office of the Trade Representative
- 4) Department of Treasury
- 5) Department of Labour

The Commerce Department chairs the committee. When the growth in imports of a specific textile product (or products) causes serious damage or threat to the U.S. domestic industry, CITA may issue a call for consultations to countries contributing to that damage. The purpose of the consultation is to bilaterally set an appropriate restraint/quota limit on such imports.

The textile sector of U.S. remains highly protected and is slowly being liberalised as compared to the other industrial products. Under WTO, U.S. has committed itself to reduce tariffs by 34% for all the industrial products. However, the textile and clothing sector has remained an exception with the commitment of a reduction of 12% (almost one-third) only.

The U.S. had quota arrangements with 42 countries till 1994 under MFA. These arrangements were replaced by ATC on January 1, 1995 for all the WTO member countries while they remained in place for the non-WTO member trading partners till further discussions. U.S. maintains quotas on all its significant suppliers except the "small suppliers" and the EU, Canada, Mexico and Japan. Under ATC, the quotas of all WTO members are being liberalised whether they were MFA members or not. China, though a former MFA member, was decided to be refrained from further quota liberalisation, under ATC or any other agreement, unless it becomes a member of WTO. The quota growth rate for non-WTO members, such as Korea, will remain at 3% or less.

12.7.1.3. Commitments under ATC

Committee for the Implementation of Textiles Agreements (CITA) has submitted its plans to TMB that how U.S. will integrate its textile sector during all the four stages. They are shown in the following Table 12.7.1

Table 12.7.1: Integration of Products

United States Final Integration by Stage			
Stage I	Jan. 1, 1995	2,760,330,164	16.21%
Stage II	Jan. 1, 1998	2,898,573,582	17.03%
Stage III	Jan. 1, 2002	3,083,215,683	18.11%
Stage IV	Jan. 1, 2005	8,283,074,387	48.65%
Total	1990 Imports	17,025,193,817*	100.00%

* All the figures are in SME (Square Meter Equivalents), which measures all the textile products in a common unit i.e. square meter.

During the first stage, 16.21% of the 1990 imports were integrated as compared to the required minimum value of 16%. In the second stage, a total of 17.03% of the total value of the base year imports were integrated where as the minimum required limit was 17%. The integration in the third stage will be 18.11% to surpass the required threshold value of 18%. In the final stage, the U.S. has committed to integrate the remaining 48.65% of the base year categories into normal GATT rules thus abiding by the maximum percentage limit of 49%. Thus, apparently, the U.S. has chalked out plans to follow the ATC requirements.

The integration of products among the four categories as identified by ATC is given in Table 12.7.2

Table 12.7.2: USA Product Wise Commitments

United States Product-Wise Committed Integration by Stage						
	Implementation date	Yarn	Fabrics	Made-ups	Apparel	Total
Stage II	Jan. 1, 1998	8.01%	2.50%	4.50%	1.83%	17.03%
Stage III	Jan. 1, 2002	3.22%	3.92%	8.39%	2.46%	18.11%
Stage IV	Jan. 1, 2005	2.61%	11.77%	2.51%	31.01%	48.65%

This table clearly depicts the picture that how the U.S. has been able to fulfil its commitments without actually liberalising the trade in textiles and apparel. Their practice has been to integrate the raw materials and lower value added products into the normal GATT rules and postponing the integration of “commercially meaningful” high value added products. During the second stage, out of the total integration of 16.84%, almost half i.e. 8.01% came from the category of yarns and tops. Liberalisation in apparel, a high value added textile product, accounted for less than 2 percent. International Textile and Clothing Bureau (ITCB)* has shown serious concerns over the US policy of “not abiding by the ATC in its true sense”. The raw materials that are being liberalised are mainly from the cotton origin. The agriculture sector of U.S., which is the source of cotton, is blamed to be giving large direct and indirect subsidies to their farmers, thus keeping their crops artificially competitive in the international market. So even the liberalisation in the raw materials is subject to the question of being artificially competitive.

The textile imports of 1990 (base year) had apparel as the largest component. The break-up is given in the following table:

* ITCB is a Geneva based body that represents the interest of 23 textile-exporting countries and thus advocates complete implementation of ATC. Most of these countries are WTO members, however China is also included.

Table 12.7.3: Imports Integration

1990 imports to be integrated in last three Stages		
Category	SME Value	Percentages
Apparel	6,095,173,372	42.73%
Fabric	3,167,370,479	22.20%
Made-up	2,637,046,241	18.49%
Yarn	2,364,733,755	16.58%
Total	14,264,323,847	100%

Square meter equivalents

After the completion of stage 1, the products waiting to be integrated have a major component of apparel i.e. 42.73%. Fabrics that have a share of 22.20% follow this. Then comes textile made-ups with 18.49% share. The minimum share (16.58%) lies with tops and yarns. The data clearly depicts the fact that as we move towards the upper end of the value chain, the percentage of the products to be integrated increases, and at worst, it increases at an increasing rate. Moreover, products that are being integrated during the first three stages are mainly those that were never subject to quotas or had quotas that remained under-utilized. In contrast, the products that are to be integrated on 1st January 2005 have 94% of them as former MFA protected products. It is because of these reasons that 90% of the import restrictions cost to the U.S. economy is a result of textile quota restrictions.

This strategy of postponing the “most sensitive” products to be integrated on the last day is highly criticized not only by the textile exporting countries but also within the U.S. The U.S. private sector is divided on the issue. Those who are involved in the production, i.e. domestic textile and apparel industries and the labour unions, have largely supported the preservation of quotas on import-sensitive goods until 2005. However, the retail and importing community has promoted earlier integration. Even some textile and apparel producers have called for accelerated elimination of some quotas. The domestic producers have little incentive to begin adjusting to a quota-free market since they are going to be in place for the ten-year transition period. It is feared that when most of the quotas are eliminated on January 1, 2005, there will be pressure from the industry on the U.S. government to provide extended protection.

12.7.2. WTO Review of U.S. Textiles Sector

Trade Policy Review Body (TPRB) of WTO reports:

In spite of low overall level of tariff protection, some “tariff peaks” (three times the overall average) are present on certain agricultural and food products as well as textiles, clothing and footwear. However, the U.S. trade officials have reported to the WTO that their textile mill output has declined in the year 1998 by 4.4% while apparel production decreased by 6.8%.

However, the fact remains that textile sector is of great importance to the developing world. If the developed countries want to enjoy the fruit of trade liberalisation, they will have to give concessions to the developing world in sectors like textiles and agriculture.

12.8. European Union (EU)

12.8.1. Overview

The EU (or the European Community-EC-) is the world's second largest importer and at the same time the second largest exporter of textiles and clothing products. In the year 1998, the value of imports amounted to over EUR 57.9 billion and exports to over EUR 35.3 billion. This means that EU remains the net importer of textiles and clothing products.

The EU imposes 209 quotas on textiles and clothing imports from a total of 21 countries. Out of these, 14 are WTO members, including Pakistan. However, the EU imposes no quotas on textiles and clothing imports from the least developed countries. In addition, these countries usually benefit from zero duties through preferential treatment under the "generalised system of (tariff) preferences" (GSP) as a result of the Lome Convention. This even includes large garment suppliers such as Bangladesh. The textile exports of Bangladesh and Sri Lanka have grown at a very high rate in the EU market because of the GSP status that they are enjoying. For example, the 11% duty imposed by EU on its garment imports is not imposed on GSP status countries. This has enabled the garment industry of Bangladesh to flourish enormously. The elimination of 11% tariff gives them a cost advantage and puts them in a better position to compete with exports of Pakistan.

On a quantitative level, United Nation's Conference on Trade and Development (UNCTAD) has estimated that the share of imports from developing countries that have obtained GSP status is 17 per cent of the imports from all the developing countries into the European Union, the United States and Japan combined. A further 28 per cent of countries obtain duty-free treatment, with the remaining 55 per cent paying MFN tariffs. Pakistan is among that group whose exports are subject to MFN tariffs.

Average applied tariffs on various textile categories in the EU is given Table 12.8.1

Table 12.8.1: Import Tariff Structure EU

Category	Applied Tariff*
Fibres	0.7%
Yarns	5.3%
Raw materials	6.3%
Fabrics	9.1%
Clothing	11.9%

*These are ad valorem (based on value) tariffs.

Tariffs are being applied on a similar basis as is adopted by the U.S. that is a lower tariff is being charged on low value added products and a higher tariff is charged on high value added products. Since fibres are the lowest value added products so the tariff charged is also at its minimum i.e. 0.7% ad valorem. The tariff charged on yarns (5.3%) is higher than fibres as it is a higher value added product as compared to the fibres. This trend continues and the tariff rates keep on increasing as we move from lower value added products to higher value added products. Thus the maximum tariff of 11.9% is charged on the highest value added product i.e. clothing.

12.8.2. Implementation of ATC

The path of integration being followed by the EU is that the product categories that are at the lower end of the value chain have been integrated at a higher rate than the high value added products. This is obvious from the data regarding integration during the first stage, as follows:

Table 12.8.1: Integration by EU Stage I

Stage I			
Description	Integration		
	Base year 1990		Share within Stage I
	Tonnes	Percentage	
Tops and Yarns	210,572	5.41%	33.36%
Fabrics	281,172	7.22%	44.55%
Made-ups	123,655	3.17%	19.59%
Clothing	15,729	0.40%	2.49%
Total integrated in stage I	631,128	16.20%	100.00%
Total volume of textile imports in 1990	3,894,668	100.00%	

A total of 16.2% of the imports of the year 1990 were integrated at the beginning of the first stage. This level of integration was in accordance with the requirement of a minimum integration of 16% for the first stage. This integration was brought about by a major contribution from the low value products i.e. 5.41% integration in tops and yarns and 7.22% share from the fabrics. On the higher side of the value chain, only 3.17% came from made-ups and a low of 0.4% from clothing. This integration can be analyzed by looking at the four categories as components of stage 1. From the data in the above table, we can see that the maximum integration is in case of fabrics, i.e. 44.55% (almost half of the total integration of stage 1). A share of 33.36% (one-third) of tops and yarns follows this. Then we have made-ups at 19.59% and finally clothing at 2.49% only. This analysis supports the argument that the major part of integration comes from low value added products and as we move towards high value added products, the contribution towards integration declines. It is because of this strategy that tops, yarns and fabrics brought about almost 80% of integration while the remaining 20% came from the categories of made-ups and clothing.

The outcome of Stage II is similar to that of Stage I. The data is given in the following Table 12.8.2

Table 12.8.2: Integration by EU Stage II

Stage II			
Description	Integration		
	Base year 1990		Share within Stage II
	Tonnes	Percentage	
Tops and Yarns	414,241	10.64%	62.18%
Fabrics	87,645	2.25%	13.16%
Made-ups	81,527	2.09%	12.24%
Clothing	82,792	2.13%	12.43%
Total integrated in Stage II	666,205	17.11%	100.00%
Total volume of textile imports in 1990	3,894,668	100.00%	

The beginning of Stage II was marked by a total integration of 17.11% of the imports of the year 1990, thus fulfilling the requirement of a minimum integration of 17% for the second stage. In this stage, the strategy of integrating low value added products by higher percentages was followed even aggressively. Out of the total of 17.11%, a major share of 10.64% went to tops and yarns. This category alone accounted for almost two-thirds (62.18%) of the total integration in Stage II. The rest of the three categories had integration of nearly 2% each i.e. a share of almost 12.5% each within the total commitment for integration. Again almost 80% of the integration were brought about by tops, yarns and fabric while the contribution of made-ups and clothing remained at nearly 20%. In this way, the integration of import sensitive commercially meaningful items has been postponed until the last day of the agreement thus raising concerns among the exporting countries.

12.9. Criticism

The record of multilateral trade negotiations to date has disappointed developing countries. They are critical of the outcome in a number of major Uruguay Round negotiations including agriculture, textiles, and intellectual property. The developed countries have also been blamed on the ground that the important multilateral agreements signed since the conclusion of the Uruguay Round have covered sectors of special interest to them; e.g. basic telecommunication, information technology, and financial services. On the other hand, issues of concern to developing countries have not been taken good care of. The Agreement on Textiles and Clothing, in particular, has been criticized on the following grounds.

- Developing countries complain that developed countries have enjoyed extended transition periods for textiles and agricultural goods and have aggressively subsidised these sectors for a long span of time. Now, when these sectors are growing in the developing countries, the transition periods and waivers granted to them have been short-term.
- The Agreement on Textiles and Clothing was formulated in such a way that developed countries could essentially postpone the elimination of restrictions until 2005 since half of the

products are to be liberalised only on the last day of the Agreement. Little real liberalisation has taken place to date. Practically, in the second stage, the US has eliminated only 1.3% of its MFA quotas and the EU only 3.15%, based on the volume of imports.

- The average tariffs on textile & clothing remain 2-3 times higher than on other industrial goods.
- Because the coverage of the Agreement is wider than the list of products that are restricted by the MFA, it appears likely that many MFA restrictions will be removed only when the third stage begins in 2002. The bulk of the quota restrictions may be eliminated only on the last day of the 10-year transitional period.
- The integration program of 1 January 1995 saw only one quota actually removed, i.e. a quota imposed on work gloves imported into Canada. By postponing the integration of majority of the commercially meaningful products till the end of the transition period, the importing countries run the risk that the last stage will be too difficult for them to implement on schedule.
- Agreement on Safeguards does not permit targeting a specific country or a set of countries and the actions have to be taken on a global basis. However, ATC allows for deviation from the normal practice of allocating global quotas, under special circumstances. It is feared that such provisions might be used against the developing world.
- USA has been blamed to use the provision regarding safeguards too often and specifically against the developing countries. In 1995, (first year of the agreement) the United States used the safeguard provisions 24 times against 14 exporting developing countries. U.S. then used this provision once in 1996, 2 times in 1997 and 10 times in 1998.
- The U.S. has mis-used the provision of “rules of origin”. They have changed the criterion to identify the origin of the product, effective from 1st July 1996. As a result, countries that already had highly utilised quotas had to charge more goods from their quotas, thus reducing their potential exports. The purpose of such gimmicks of the U.S. government is nothing but adversely affect some highly competitive exporting countries.
- The EU has also pushed the textile exporting countries to be in compliance with EU’s rules of origin. In Bangladesh, thousands of export licenses were drawn because of this provision thus leading to job insecurity for more than a million workers, mostly women.
- Developed countries are blamed to take shelter under misinterpretation of ATC and hence postponing the implementation of the Agreement. They fulfil the requirement of liberalisation in word but not in spirit.
- GATT 1994 works on the principal of overall balance but this agreement has the unusual clause of sectoral balance of rights and obligations.
- ATC has the provision of imposing penalty only on the exporting countries, which are mostly developing. Where as, there is no provision of imposing penalty on the importing country (mostly developed) if they fail to fulfil their obligations.
- Rules governing the “de minimis provisions” have not been laid down clearly. So the developed countries might take safeguard actions and depriving the developing countries from the exports under this provision.
- Since both EU and US have postponed the integration of the “most sensitive” products in the last stage. So the ITCB fears that they might try to stretch the ATC beyond 2005.
- In recent bilateral agreements regarding allocation of quotas, the U.S. has included strong measures to avoid circumvention and they claim that these measures are in accordance with the ATC. However, the exporting countries have voiced concerns over the application of these bilateral provisions (and unilateral actions where mutual agreements can not be reached) that they are actually a result of highly technical interpretation of ATC.
- ITCB has complained that CITA, in order to discourage imports into U.S., requires visas for those products that have already been integrated under the ATC.
- TMB has not been quite affective in checking the unjustified use of safeguard measures.
- EU is blamed to have used anti-dumping measures against products under quota and it is regarded as double protection by the exporting countries. Moreover, such measures are used repeatedly against the same products and countries thus having a negative effect on the process of liberalisation.

- Provisions made in ATC to benefit the small suppliers are not being fully reflected in the implementation of the agreement by the EU and the U.S.
- EU and US are linking international trade with social conditions. Social conditions include child labour, forced labour, environmental issues etc. The area of social conditions was left open in the Uruguay round and is now being used by the developed world for disguised protectionism.

The results of ATC until 1999 indicated that the textile exports from developing countries increased by only 4.3% over the last four years, whereas textile exports of developed countries increased by 9%, over the same period of time.

According to a statement released by the officials of Third World Network* (TWN) in December 1999:

After five years of implementation, very few quotas have been removed. Of the total quantity of imports under specific restrictions, only 5-6% has been freed of restrictions over 70% of the 10-year transition period. Additional quota access has not resulted in any lessening in the restrictive nature of quotas. Developing countries, including small suppliers and least-developed countries, have not received meaningful increases in their access possibilities

For smooth running of WTO, industrial countries will need to make concessions in sectors important to the developing world during the next multilateral trade round. It requires reductions in textile trade barriers that are being substituted for import quotas phased out under the Uruguay Round. It is not the implementation of ATC in letter that is important to the developing countries, rather it's the "quality" of implementation that matters. Industrial nations now argue that in order to overcome the problems of implementation of ATC, they need to "renegotiate" the agreement. The developing countries say that ATC does not come in the way of liberalisation and if implemented in its true spirit, will not leave the importing countries with adjustment problems.

On the other hand, developed countries have shown their concerns about the following problems:

- The continuing problem of circumvention of quotas by the exporters. There is a need that concerned exporting countries should take serious steps to solve this problem.
- The limited progress being made by the developing countries in improving their market access conditions.
- Circumvention of quotas has been taking place by making use of transshipment of goods (making a product in one country and then shipping it to another country to re-export it from the second country as its product), false declaration of country of origin and other kinds of falsification of documents.

12.10. Textile Sector of Pakistan

12.10.1. Overview of textile sector

Textile sector of Pakistan is the largest contributor of the industrial sector as it has a 40% share in the employment of the manufacturing sector. More than 60% of the total exports of Pakistan come from the textile sector. Its share in GDP is about 8%, about 30% in Value Added production by manufacturing sector. Since cotton is the biggest source of raw material for the textile sector and Pakistan is the fourth largest producer of cotton in the world, so the textile sector is also regarded as being indirectly responsible for employment in the agricultural sector. The sector is comprised of enterprises in:

- Spinning
- Weaving

* The Third World Network is an independent non-profit international network of organisations and individuals involved in issues relating to development, third world and North-South issues. It conducts research on economic, social and environmental issues pertaining to the South.

- Processing and finishing
- Knitted fabrics and clothing
- Woven garments
- Woolen spinning, weaving and garments

There are about 442 large textile companies with 50 of them as integrated units (engaged in spinning as well as weaving, and in some cases garments as well). Besides the above-mentioned companies there are at least 300 “large enterprises”^{*} of knitted and woven garments. In addition, there are thousands of small factories and workshops in different sectors of weaving, finishing, woven garments, knitwear, home textile etc. The highlights of the textile sector are given below:

- Pakistan is one of the four largest producers of cotton in the world. The annual average production has been around 9 million bales of 170 Kgs for the last five years.
- The country enjoys the advantage of a large labour force with very low wage rates.
- After a consistent growth in all the sectors of spinning, weaving and value added sectors like bed-wear, knitwear and woven garments, the textile industry of Pakistan faced difficult times in 1997.
- Exports of all textile and clothing increased at less than 2% per year (in value terms) from 1996 to 1998. However, cotton yarn exports decreased in value by 8.4% in 1996-97 and 18% in 1997-98.
- In 1998, exporters were concerned about the sanctions following the nuclear tests of May 1998. There was also a substantial loss of trade due to the Asian crisis and the dislocation of the markets in the Far East. Overall exports of textile and clothing have decreased in value by 4% during July 1998 to December 1998 as compared to the same period last year. During this period cotton yarn exports fell by 12.3%, cotton cloth exports by 1.4% and woven garments by 2.5%. However Knitwear and hosiery showed a 25% increase and bed-wear also increased by 31%.
- The serious and financially strong operators in the textile sector are not pessimistic about the industry and there is a drive to modernise the textile industry.

Table 12.10.1: Top Asian Exporting Countries

1998 (\$ million)	
Country	Exports
China	39,485
Korea	15,577
Hong Kong	10,980
Turkey	9,900
India	9,275
Japan	6,260
Thailand	4,965
<i>Pakistan</i>	4,897
Indonesia	4,862

Pakistan was the eighth largest Asian exporter in the year 1998, based on the value of exports. We had a share of 3.9% in Asia and 1.91% in the world textile exports.

* That has 100 or more employees.

12.10.2. Textile Exports of Pakistan

The major buyers of Pakistani textile produce are the EU and the US. Trade in textile and clothing products between Pakistan and the EU; and Pakistan and the US are regulated by bilateral agreements. Under these agreements, exports of several products from Pakistan are limited by the imposition of quotas. These will be discussed in detail in the quota utilization discussion.

The trend in the world market is that trade is shifting from textiles category to the clothing category. This is shown in the Table 12.10.1

Table 12.10.1: Textile and Clothing Exports World and Pakistan

	1992-93		1997-98		2002-3 Estimated	
	Textile	Clothing	Textile	Clothing	Textile	Clothing
	Percentages					
WORLD	45.4	54.6	42.8	57.2	36	64
PAKISTAN	75.8	24.2	75.2	24.8	63	37

Between 1992-93 and 1997-98, the share of global textile trade was reduced from 45.4 percent to 42.8 percent of the total trade. However, this has not been the case with Pakistan. In 1992-93, textile had a share of one-third of exports and this share remained almost the same till 1997-98. But this trend is forecasted to change with trade moving towards clothing. It is estimated that in the year 2002-3 the world will have two-thirds of clothing category in its trade while Pakistan will only have one-third coming from the clothing category and the major share will remain to lie with the textile category.

12.10.3. Quota Utilization of Pakistan

Pakistan has independent quota arrangements with EU/Turkey, the US and Canada. The quota utilisation for USA and the EU is discussed as follows:

12.10.3.1. European Union

The EU is Pakistan's first trade partner in textiles and USA follows this. According to the value of exports, Pakistan was EU's 13th largest supplier of textiles and clothing in the year 1997. The value of exports of Pakistan to the EU was ECU 1.41 billion. The main EU partners are Italy, France, UK and Netherlands. EU has fixed quotas for Pakistan for the SIGL* categories of 1, 2, 2A, 3, 4, 4C, 5, 6, 7, 8, 9, 18, 20, 26, 28, and 39. The mechanism of limiting imports by quota is that EU announces specific quota limits for the coming calendar year. This quantitative limit is adjusted in each year in accordance with the flexibility provisions contained in the ATC. The EU has an integrated system of licenses (SIGL), which is based on computers linking the European Commission with the departments in various countries that issue import licenses. When the licenses issued reach the designated quota, European Commission orders the issuing departments to cease the issue of licenses. In order to keep the exporters in touch with the outstanding quota; the up to date quota utilization information is placed on the web site of the integrated system.

The quota utilization of Pakistan is compared with major Asian exporters including China, India, South Korea and Hong Kong in the following tables.

* SIGL {systeme integre de gestion de licenses (integrated system of licenses)} is a computer system linking the European Commission with the departments issuing import authorisation in the member states.

Table 12.10.1: Quota Utilisation in EU I

SIGL	Description	Pakistan			China			India		
		1997	1998	1999	1997	1998	1999	1997	1998	1999
1	Cotton yarn	99.5	99.4	82.8	23.1	12.6	5.2	99.8	99.9	80.7
2	Woven fabrics (cotton)	99.3	99.9	96.5	94.5	91.1	96.2	99.9	96.3	84.2
2A	Other than unbleached or bleached	88.8	91.7	66.1	60.5	71.1	93.5	65.5	69.0	47.4
3	Woven fabrics (synthetic)	100	99.8	99.2	94.9	84.8	91.9	99.9	99.6	78.9
4	Shirts, T-shirts	91.0	91.0	90.8	99.9	99.6	95.1	99.9	99.9	97.3
5	Jerseys, pullovers, waistcoats	91.3	89.5	92.1	99.8	99.6	97.3	99.9	95.4	97.6
6	Woven trousers, shorts of wool, cotton	90.9	90.4	88.9	99.9	99.8	99.0	99.8	100	98.2
7	Women's blouses, shirts	66.4	69.4	25.5	99.7	99.3	95.0	99.8	95.8	85.6
8	Men's shirts of wool, cotton, MMF	55.2	46.9	31.3	99.8	99.8	99.2	89.6	92.3	83.1
9	Terry towelling (cotton)	99.8	99.9	94.0	59.9	65.6	87.1	99.0	81.8	76.2
18	Briefs, nightshirts, pyjamas & similar	40.1	39.8	40.7	99.6	99.6	98.5			
20	Bed linen	99.3	99.9	97.8	79.3	80.3	95.2	99.7	89.9	79.7
39	Table, toilet & kitchen linen	74.0	78.2	60.0				99.4	99.9	77.4
26	Women's dresses of wool, MMF	37.0	19.3	16.0	87.1	99.5	98.0	95.7	100	97.7

Table 12.10.2: Quota Utilisation in EU II

SIGL	Description	Pakistan			South Korea			Hong Kong		
		1997	1998	1999	1997	1998	1999	1997	1998	1999
1	Cotton yarn	99.5	99.4	82.8	68.4	84.2	34.1			
2	Woven fabrics (cotton)	99.3	99.9	96.5	18.6	20.1	21.9	18.9	15.4	17.1
2A	Other than unbleached or bleached	88.8	91.7	66.1	53.5	57.6	61.7	16.7	15.0	16.2
3	Woven fabrics (synthetic)	100	99.8	99.2	18.4	14.2	13.5	0.1	0.0	0.0
4	Shirts, T-shirts	91.0	91.0	90.8				64.7	66.7	98.9
5	Jerseys, pullovers, waistcoats	91.3	89.5	92.1				100	100	99.7
6	Woven trousers, shorts of wool, cotton	90.9	90.4	88.9				99.9	99.6	96.8
7	Women's blouses, shirts	66.4	69.4	25.5				95.6	88.3	85.0
8	Men's shirts of wool, cotton, MMF	55.2	46.9	31.3				67.5	59.0	56.1
9	Terry towelling (cotton)	99.8	99.9	94.0	0.0	0.1	0.0			
18	Briefs, nightshirts, pyjamas & similar	40.1	39.8	40.7				8.4	6.8	9.4
20	Bed linen	99.3	99.9	97.8						
26	Women's dresses of wool, MMF	37.0	19.3	16.0				70.3	66.6	75.1
39	Table, toilet & kitchen linen	74.0	78.2	60.0				0.0	0.0	0.0

See ANNEX III for a detail of the SIGL product categories and the quota utilization per category between the years 1997 and 1999.

The above table shows only those categories in which the exports from Pakistan are restricted under quota. Annex IV contains a full listing of all the categories for major Asian exporters.

The quota utilisation levels are discussed after dividing them in the yarn and non-yarn categories. The non-yarn categories are taken first.

12.10.3.1.1. Non-yarn Categories

In case of Pakistan, the general trend is that utilisation in most categories has decreased in the year 1999 as compared to 1997 and 1998. The serious matter is that our utilisation in some categories has decreased so drastically that it has become less than half of the previous level (category 7, women's blouses and shirts).

In case of category 8 (men's shirts), it has declined to two-thirds of its previous level. In case of category 26 (women's dresses of wool and man-made fibre), the utilisation in the year 1999 was less than half of the 1997 level.

India has a similar trend i.e. its utilisation has also decreased in most of the categories and the decrease is significant as well. However, we do not see any drastic downward shifts in quota utilisation, as is the case with Pakistan. The utilisation levels of South Korea and Hong Kong have mixed trends and there are no drastic shifts in the utilisation levels.

Among the countries under discussion, China has the highest utilisation rates and these are improving as well. All the non-yarn categories had more than 90% utilisation rate in the year 1999. The numbers also suggest that the market lost by both Pakistan and India is being taken up by China, as when utilisation rate of Pakistan and India decreases simultaneously in some category, the utilisation level of China increases in that category. The alarming part is that the utilisation level of China is not increasing by just two or three percentage points but in fact by five to twenty five percentage points.

12.10.3.1.2. Yarn Categories

Cotton yarn is kept separate from the above discussion, as it is a low value added product. The trend of utilisation levels for yarn is totally different. Though the utilisation level is falling both in Pakistan and India, but they still have the highest utilisation levels among the countries under discussion. In case of China and South Korea, the Utilisation level for yarn is falling and interestingly, the decrease is very drastic as the levels became less than half as compared to previous year. This analysis simply suggest that China, South Korea and Hong Kong are moving towards value addition and in the value added products market, China is grabbing share from Pakistan and India.

In case of Pakistan, the market for textile products for women remains untapped. This is obvious from the utilisation levels in the categories 7 (women's blouses and shirts) and 26. In these categories, the utilisation levels not only remain low but are also showing a drastic decreasing trend. In the year 1999, our utilisation in category 7 was only one fourth of the designated quota and the situation was even worse in case of category 26 (women's dresses of wool and man-made fibre) that had a utilisation of as low as 16 percent. India and China are filling this vacuum as they have achieved almost 100 percent utilisation in both these categories.

12.10.4. United States of America

USA is the second largest importer of textile exports of Pakistan. The quota utilisation figures are as follows:

Table 12.10.1: Quota Utilisation in the USA I

HTS Codes*		Pakistan			China			India			
		1997	1998	1999	1997	1998	1999	1997	1998	1999	
300/301	Yarn			50.3	49.1	13.6	66.8				
219	Fabric	82.5	58.6	35.9	5.3	51.2	32.3	98.9	94.0	74.4	
226		70.2	83.1	71.2	71.2	52.1	64.0				
313					68.2	59.2	78.0	99.2	82.8	75.0	
314		79.0	67.1	42.7	94.3	86.5	86.0	92.0	87.6	79.9	
315		80.8	77.8	50.8	89.6	79.9	94.3	82.7	97.7	46.1	
317/617		88.7	78.2	40.8	77.5	60.8	81.1	99.1	90.9	0.0	
613/614		72.5	86.5	65.4	66.5	66.0	47.3				
615		72.6	81.1	75.9	72.3	51.8	36.6				
625		71.3	84.2	35.7							
626		42.9	65.4	34.2							
627		0.3	0.0	1.0							
628		32.0	40.0	17.5							
629		4.3	4.0	5.9							
237		Apparel	22.4	23.4	44.5	86.1	84.4	42.8			
239			22.9	15.2	32.0	92.0	86.8	87.3			
331/631	77.5		81.9	67.8	94.6	84.0	72.4				
334/634	88.1		58.2	78.0	96.9	73.2	73.5	92.8	77.9	78.0	
335/635	67.7		56.4	38.3	96.0	66.5	67.2	96.9	87.5	81.7	
336/636	61.7		73.1	51.6	87.1	74.2	96.3	85.8	91.5	94.3	
338	93.5		77.1	88.0	92.7	90.7	97.0	90.7	98.6	96.3	
339	77.4		72.9	83.9							
340/640	90.0		61.0	69.8	80.2	93.3	87.8	94.9	100.0	99.5	
341/641	27.3		77.9	24.6	85.6	86.3	70.5	90.4	96.9	92.3	
342/642	18.4		55.7	38.0	74.2	79.9	91.8	91.7	87.1	85.7	
347/348	81.9		73.2	92.7	100.0	97.6	97.1	89.7	92.5	87.3	
351/651	85.1		84.3	74.9	88.7	84.4	83.4	86.1	100.0	93.9	
352/652	69.2		76.4	52.0	98.5	83.9	90.1				
359/659	89.5		74.2	84.7	73.4	77.5	85.0				
638/639	36.0	19.9	75.4	97.3	97.8	93.5					
647/648	73.8	69.8	65.7	95.6	87.6	90.3	85.9	88.9	76.3		
360	Made-ups	61.5	63.4	91.7	73.0	76.4	76.8				
361		51.1	61.4	87.4	81.6	95.8	96.0				
363		80.8	87.8	90.4	93.8	79.4	62.8	89.9	91.9	93.9	
369		70.6	76.7	85.0	61.4	62.8	61.1	98.9	94.4	76.9	
666		56.8	85.2	97.2	84.9	89.4	83.7				

* See ANNEX VI for HTS (Harmonised Tariff Schedule) codes description.

Table 12.10.2: Quota Utilisation in the USA II

HTS Codes*		S. Korea			Hong Kong			Turkey			
		1997	1998	1999	1997	1998	1999	1997	1998	1999	
		Percentages									
300/301	Yarn	16.7	41.4	14.6				21.9	28.2	88.0	
219	Fabric	2.0	1.2	1.7	10.4	23.6	17.8	33.4	73.2	71.8	
226											
313					1.8	1.9	4.5				
314		24.2	22.0	18.2				1.3	2.1	3.5	
314		23.7	28.6	21.5	0.6	5.4	3.2	0.2	0.3	0.8	
315		49.8	57.7	48.2	-	14.6	3.0	1.8	1.6	0.5	
317								14.0	9.6	15.3	
326		11.3	12.5	26.7				4.8	7.8	8.4	
613/614		5.7	6.7	25.8							
615											
617					34.9	89.3	49.1	0.7	1.5	3.1	
625								58.9	77.7	55.6	
626								20.9	20.5	12.9	
627		91.2	86.2	88.3				1.8	1.7	0.3	
628								4.7	5.5	1.5	
629								4.4	16.7	5.7	
237	Apparel	7.1	7.3	3.1	37.3	52.5	27.6				
239		83.9	-	-	70.9						
331/631					58.2	62.7	63.0				
333/334		27.9	68.2	71.2	49.0	70.3	68.5				
335		33.9	62.0	38.2	62.5	77.6	67.3	15.0	20.1	15.8	
336/636		91.6	83.2	93.4	48.0	61.5	64.8	26.7	33.7	26.8	
338		92.2	99.1	93.5	82.8	88.7	92.0				
339											
340/640		39.1	49.5	56.0	68.7	76.9	74.4	6.6	5.4	10.0	
341/641		56.7	61.7	71.2	64.2	79.0	82.3	10.8	9.1	11.8	
342/642		91.6	98.7	94.1	48.9	64.8	86.7	16.5	18.2	22.5	
347/348		62.1	99.3	92.3	91.7	92.8	90.8	41.0	56.9	52.7	
351/651		45.5	95.9	94.7	64.0	87.9	88.0	96.6	89.5	92.8	
352/652		75.9	92.2	95.5	66.1	72.2	80.6	54.2	66.8	69.5	
359/659		24.8	27.2	40.7	42.7	48.4	51.5				
638/639		66.1	93.9	99.0	76.4	96.3	90.9				
647/648		54.8	98.1	89.7	47.8	69.8	73.2				
360		Made-ups									
361									85.1	94.4	85.5
363			0.4	7.3	5.6						
369					-	-	-	36.5	80.6	83.3	

* See ANNEX VI for HTS (Harmonised Tariff Schedule) codes description.

See ANNEX V for a detail of the designated quota per category between 1997 and 1999.

Only those categories are to be discussed here that are restrained by quota limits from Pakistan. Quota limits for major Asian exporters including China, India, Korea, Hong Kong and Turkey are compared to utilisation levels of Pakistan.

According to the data given in the tables, performance of Pakistan is poor in USA as compared to the utilisation levels in European Union. In the EU, we were almost fully exhausting our quota limits in many categories. This is not the case in the US where we have hardly touched 90 % utilisation in only four categories out of the thirty-six discussed. The situation is getting worse over time as our utilisation has decreased in nineteen categories while increasing only in eleven categories. In case of India, the quota utilisation went down in nine categories while rose only in two categories. China's performance shows a mixed trend, as it has lost in ten categories and gained in nine.

Table 12.10.3: Quota Utilisation Comparison USA

Years	Pakistan			China			India			Korea			Hong Kong			Turkey		
	97	98	99	97	98	99	97	98	99	97	98	99	97	98	99	97	98	99
Yarn			50	49	14	67				17	41	15				22	28	88
Fabric	61	66	47	82	72	80	97	91	72	24	25	23	5	12	9	11	18	19
Apparel	69	72	78	90	86	83	91	96	93	52	62	70	71	79	80	35	42	46
Made-ups	75	82	89	80	76	68	90	92	93	1	7	6	-	-	-	60	88	84

12.10.4.1. Yarn

The quota utilisation levels of yarn are given for Pakistan (1999 only), China and Korea and Turkey. Korea is only marginally utilising the quota, whereas China and Turkey have erratic utilisation trends as their utilisation levels have increased drastically in the year 1999. Pakistan has the highest utilisation levels. Since yarn is a low value added product, the discussed countries are not utilising their quotas.

12.10.4.2. Fabric

In case of Pakistan, the utilisation levels in the fabric categories are lower than China and India but better than Korea, Hong Kong and Turkey. India had the highest utilisation levels both in 1997 and 1998 but then China took up the lead in the year 1999. Korea has low utilisation levels (average for all the fabric categories is 24%) and these are maintained over the mentioned time period. Hong Kong and Turkey had very low utilisation rates in 1997. However, they improved their utilisation levels in 1998. In 1999, Turkey showed further improvement while Korea showed a slight decline. However, their utilisation levels have remained below twenty percent. Since Korea, Hong Kong and Turkey are only marginally utilising the quotas so our discussion is focused on Pakistan, India and China.

The utilisation levels of Pakistan increased on the average* between 1997 and 1998 from 61% to 66%. During the same time period, China's utilisation levels fell from average utilisation of 82% to 72% and India lost its average utilisation levels from 97% to 91%. However, the situation changed in the next year as the average utilisation levels of Pakistan fell sharply to 47% (almost two-thirds of its previous level), India fell to 72% and China rose to 80% thus reaching close to its 1997 level of 81%. Pakistan and India have shown a similar trend between 1998 and 1999 as the utilisation levels of both the countries fell sharply while China gained during the same time period. So the numbers suggest that China is taking up the market that is being lost by India and Pakistan. Moreover, India had the highest average utilisation levels in 1997. But then the utilisation level started falling and China became the leader in 1999.

12.10.4.3. Apparel

In the apparel segment, Pakistan is showing consistent improvement as the average utilisation level has increased from 69 % in 1997 to 78% in 1999. China is showing an opposite trend as its average utilisation has decreased consistently over the three years. The average utilisation level was 90% in 1997 and it came down to 83% in 1999. India showed improvement in 1998 as the average utilisation levels reached 96% in 1998 from a low of 91% in 1997. However, the utilisation levels then fell to 93% in 1999 but still above the 1997 level. Korea has also shown improvement in this category and has the highest improvement rate as its

* All the averages discussed are weighted averages obtained by dividing the total quota utilization levels (values) by the total allocated quota levels.

average utilisation level has increased from 52% in 1997 to 70% in 1999. No other country has gained so many percentage points. Hong Kong has also shown improvement by reaching an average utilisation level of 80% in 1999 as compared to 71% in 1997. Among all the categories discussed, Hong Kong has maximum utilisation in this segment. Turkey is also improving its utilisation levels consistently. It has reached 46% in 1999 from 35% in 1997. So the general trend is that except China, every other country has shown improvement in this segment.

India is enjoying the highest utilisation levels in this segment as well. Though Pakistan, Korea, Hong Kong and Turkey have improved their utilisation levels, they are still far below India.

12.10.4.4. Made-ups

The trends in this segment are similar to that of the apparel segment. Pakistan has shown consistent improvement over the years as it has touched an average utilisation level of 89% in 1999 as compared to 75% in 1997. India has also shown a slight improvement by touching an average level of 93% in 1999 as compared to 90% in 1997. However, China tends to loose gradually in each discussed year and has declined to 68% in 1999 as compared to 80% in 1997. In the made-ups categories under discussion, Korea is not a significant player as it is a supplier in only one category and even for that category, the utilisation level is below ten percent. Similar is the case with Hong Kong as it has quota in only one category and even that has a zero utilisation level in all the years discussed. Turkey has shown remarkable increase in utilisation and touched 84% average utilisation in 1999 compared to 60% in 1997. Among the four segments, Turkey has highest utilisation level in made-ups.

India has kept its lead and has highest utilisation levels in this segment as well with Pakistan standing at second position. The difference in utilisation levels of Pakistan and India was broad in 1997 but the percentage utilisation difference decreased to four percentage points in 1999.

In the United States, imports from Pakistan, China and India are restricted in many common categories. In these categories, India currently has the highest utilisation levels. China follows this while Pakistan remains at the lowest level among these three competitors. We need to improve our utilisation levels with special emphasis on value added products. The rising utilisation levels of Korea and Hong Kong in the apparel segment and of Turkey in the made-ups segment can pose serious threat to our utilisation levels in these high value added segments in the years to come.

12.10.5. General trends in quota utilization

The common findings from the discussion on quota utilisation in the EU and US are:

- The general trend is that the quota utilisation levels of Pakistan are falling.
- Pakistan has higher utilisation rates in EU as compared to US.
- Pakistan has low utilisation levels in the categories that are meant for products of women and girls.
- Among the countries discussed, on a comparative basis, the utilisation levels of Pakistan are high in low value added products and low in high value added products.
- China and Hong Kong and Turkey have low utilisation rates in low value added products and high utilisation rates in high value added products.

In November 1999, a deal was struck between China and the U.S. regarding the Chinese accession to WTO. According to the deal, the Chinese textile exports will not be subject to quotas from January 1st, 2005 rather than 2010.

According to the U.S. officials, China's accession to the WTO would dramatically boost apparel exports to the United States. If quotas are removed after December 31 2004, China's share of the U.S. apparel market could grow between 18 to 30 percents. Much of this increase would occur at the expense of other developing countries including Pakistan. Even in absence of China's accession to WTO, we are loosing our markets to China. With our stumbling footings in the textile market and coming in force of such deals, we

will find ourselves in deep trouble. To prevent such negative developments come our way, we need to review our textile policy on an urgent basis.

12.11. Category-wise Export Analysis of Pakistan

A category-wise export analysis is required in order to find out the composition and trend of textile exports of Pakistan. This analysis has been based on the following four basic textile and clothing segments.

- Yarn
- Fabric
- Apparel
- Made-ups

This analysis has been conducted for our exports to US. A similar exercise can be done for EU as well but is not possible at the moment because of data availability constraints. However, we believe that similar findings will be obtained in the EU market as well.

12.11.1. Exports to the US

The data regarding the textile exports of Pakistan to the US in the four basic segments during the year 1999 is given in Table 12.11.1. The figures are in million US dollars.

Table 12.11.1: USA Imports from Pakistan and World

	US imports from			
	Pakistan	%	World	%
Yarn	56	3.80	1,304	1.93
Fabric	196	13.29	4,842	7.16
Apparel	714	48.41	49,914	73.84
Mad-ups	490	33.22	6,473	9.58
Total	1,456	100.00	62,533	100.00

The textile export of Pakistan to US had a value of US\$ 1,456 million in the year 1999 while the total US imports were US\$ 62,533 million. Our export to US had a 3.8% component of yarn in it compared to 1.93% component of yarn in the entire US imports. It means that the yarn component of our exports was twice as much as the average yarn component of other exporters to US. Since yarn is a low value added product, this is not a healthy trend. Instead of exporting yarn, we should be adding some value to it i.e. converting it into fabric and then apparel before exporting it to fetch a better price.

The case of fabric component of our exports has been similar to that of yarn as it constituted 13.29% of our fabric exports to US and only 7.16% for the entire US imports. It means that the fabric component of our exports was also twice the fabric component of total US imports in the year 1999. Fabric also lies at the lower end of the value chain and we have not been able to add value to it before we export it.

Apparel had the largest share of 73.84% in the US imports. Our exports to US also had apparel as the largest component but it was only 48.41% of our total exports. In other words, apparel, as a component of our exports is only two-thirds of the apparel component of US imports. So we have lagged behind in this value added segment.

Finally, the component of made-ups (i.e. 33.22%) was very high as compared to the made-ups component of total US imports (9.58%). The main reason for this trend is that the fabric that we produce is of poor quality; mainly due to technology constraints. The defects of the fabric become prominent on dyeing and become hidden on printing. So a major portion of fabric that we produce is printed for "masking" its defects. This printed fabric is exported in forms of bedspreads, quilts, pillow cases and sheets etc. Such products make up the made-ups category that have a major component in our exports.

The data presented in the previous table and the discussion following the table clearly depicts the fact that compared to the world, our exports are high in low value added product segments like yarn and fabric and low in high value added product segments such as apparel. This trend in our exports needs to be changed by focusing on value addition.

12.11.1.1. Export Ranking

A ranking of all the textile exporters to the US has been developed on the basis of quantity (by taking square meter equivalent as the common unit) and dollar value of exports of each country. The ranking in each of the four basic segments and for both the criteria (quantity and value) is obtained by looking at the standing of Pakistan with respect to the rest of US exporters of textile products. The data is given in the following table:

Table 12.11.1: Export Ranking Criteria

	Ranking Criteria	
	Quantity	Value
Yarn	3	5
Fabric	4	8
Apparel	18	21
Mad-ups	2	3
Total	4	15

The first inference that can be drawn from the above table is that as we move from low value added products to high value added products, our ranking falls according to both the criteria i.e. quantity and value. In case of quantity of exports, our ranking is 3 for yarn exports and 4 for fabric exports. But this ranking falls down to as low as 18 in case of apparel, which is a high value added product. Similarly, for the value criterion, our ranking for yarn is 5, for fabric is 8 and is pushed down to 21 in case of apparel. It has been discussed earlier that the component of made-ups is high in our exports. This is also obvious from the ranking as we stand as the second largest exporter of made-ups to US on the basis of quantity exported. So this analysis again depicts the fact that the focus of our textile exports has been on low value added products rather than high value added products and that is why our ranking in low value added products is better than high value added products.

Another interesting thing to note is that our ranking on the quantity criterion is higher than the value criterion within every segment and hence on an over all basis. We stand on the third position for yarn exports based on the quantity of exports ranking but keeping value as the criterion, our standing is pushed down to number five. Similarly, our quantity ranking for fabric is 4 and is pushed downward to 8 if value ranking is the criterion. In case of apparel, the quantity ranking is 18 but again the ranking based on value of exports is lowered to 21. Finally, the quantity ranking for made-ups is number 2 but the value ranking is number three. For the entire exports, the figures are even more alarming as our quantity ranking is number four but our value ranking is pushed down drastically to number fifteen.

These numbers clearly suggest that the price that we are getting for our exports is low as compared to other textile exporters to the US since our quantity ranking is higher in each basic segment. Moreover, as we are present in low value added categories, it results in low value of export thus pushing our value ranking downwards as compared to the quantity ranking. This analysis again suggests that in order to increase our export earnings through textiles, we need to concentrate on value addition and quality products. Thus our strategy for textile exports needs to be quality driven rather than quantity driven.

Now we will analyse the exports of Pakistan to the US by dividing the US imports from Pakistan (all the MFA categories) into three mutually exclusive segments namely:

- Exports under quota

- Exports in unrestricted categories
- Untapped categories

These segments will be referred to as "three-segment" during the remaining part of the analysis. The analysis is carried out as follows for all the four major categories i.e. yarn, fabric, apparel and made-ups.

12.11.1.2. Yarn

The yarn exports of Pakistan to the US are given in the following Table 12.11.1:

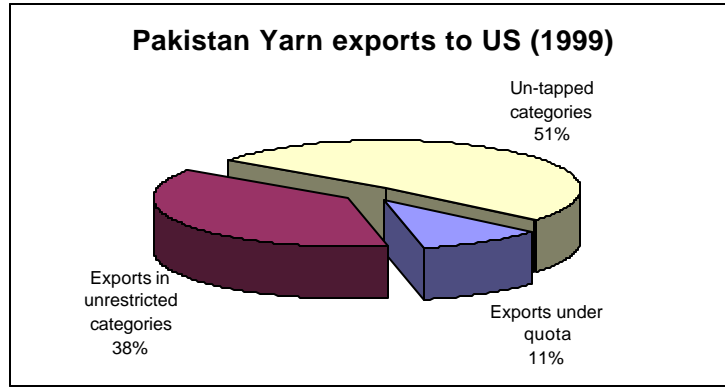
Table 12.11.1: Pakistan Yarn Exports to USA

Exports to US (\$ million, 1999)			
	HTS Codes*	World	Pakistan
Exports under quota	301	138.432	11.205
	Sub Total	138.432	11.205
Exports in unrestricted categories	200	102.242	0.403
	300	193.841	41.434
	603	41.393	1.548
	604	99.012	0.384
	607	57.832	0.894
	Sub Total	494.320	44.663
Untapped categories	201	144.717	
	400	77.029	
	600	307.197	
	606	137.835	
	800	4.482	
	Sub Total	671.260	
Grand Total		1,304.012	55.868

* See ANNEX VI for HTS (Harmonised Tariff Schedule) codes description.

There are a total of eleven MFA categories of yarn out of which, exports of Pakistan are restricted by quota in only one category of combed cotton yarn (category 301). In the year 1999, we were exporting to US in six yarn categories while leaving five yarn categories untapped. The distribution of MFA categories according to the above stated three-segment criterion is given in Figure 12.11.1.

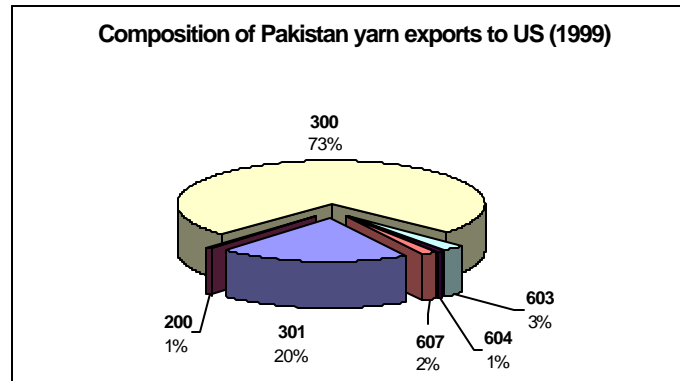
Figure 12.11.1: Narrow Yarn Product Range of Pakistan



Our exports in the restricted category were slightly more than 11 million US dollars while in the five unrestricted categories, we had an export of nearly 45 million dollars. The above chart is made using the value of total yarn imports of US. The categories in which we are not present make more than half (nearly 51%) of the US yarn imports, that is, a market of US\$ 671 million out of a total of US\$ 1304 million of yarn imports. So a major segment of the US yarn market remains untapped by Pakistan.

The interesting thing to note is that almost 73% of total yarn exports of Pakistan (US\$ 41.434 million from a total of US\$ 55.868 million) came from a single category i.e. carded cotton yarn (category 300) that is not under quota restrictions. Another 20% came from the quota-restricted category of combed cotton yarn (category 301). Thus we are not only missing a larger component of the market but are also heavily reliant on a single category within the tapped categories. This reliance on a single category is shown in the following chart.

Figure 12.11.2: Pakistan Yarn Product Mix



More than 90% of our exports are coming from two categories i.e. 300 and 301. In the remaining four categories, our presence is only marginal.

The data clearly suggests that we have not been able to diversify our yarn exports and if we loose our exports in the categories 300 and 301, due to any reason, we will stand nearly losing the yarn segment in all.

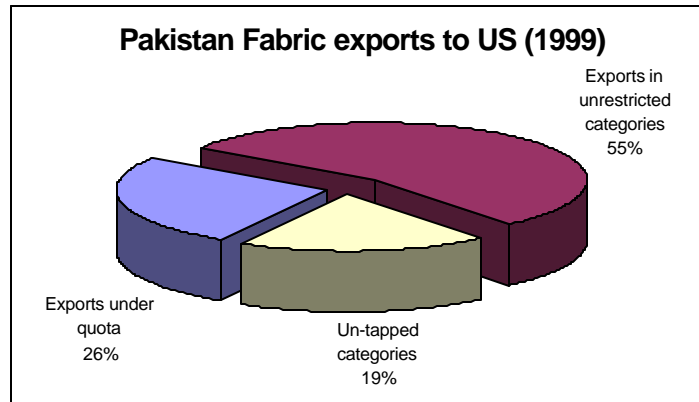
12.12. Fabric

The fabric exports of Pakistan to the US are given in the following Table 12.12.1: Fabric Export to the USA

Table 12.12.1: Fabric Export to the USA

Exports to US (\$ million, 1999)			
	HTS Codes	World	Pakistan
Exported under quota	219	86.069	2.474
	226	34.122	3.635
	313	188.995	44.693
	314	160.268	2.431
	315	155.41	25.96
	317/617	280.764	13.665
	613/614	61.605	7.273
	615	16.01	9.122
	625	81.23	5.196
	626	10.299	5.92
	627	10.915	
	628	29.723	0.55
629	144.311	1.526	
	Sub Total	1259.721	122.445
Exports in unrestricted categories			
	218	201.114	1.641
	220	250.002	21.56
	222	663.849	3.214
	224	305.742	2.492
	225	239.622	1.653
	229	564.088	0.337
	326	92.144	38.595
	611	69.923	1.598
619	272.023	2.105	
	Sub Total	2658.507	73.195
Un-tapped categories	227	11.351	
	410	203.488	
	414	71.468	
	618	66.193	
	620	315.906	
	621	7.182	
	622	79.054	
	624	21.096	
810	147.613		
	Sub Total	923.351	
Grand Total		4841.579	195.64

Figure 12.12.1: Pakistan Fabric Exports to USA

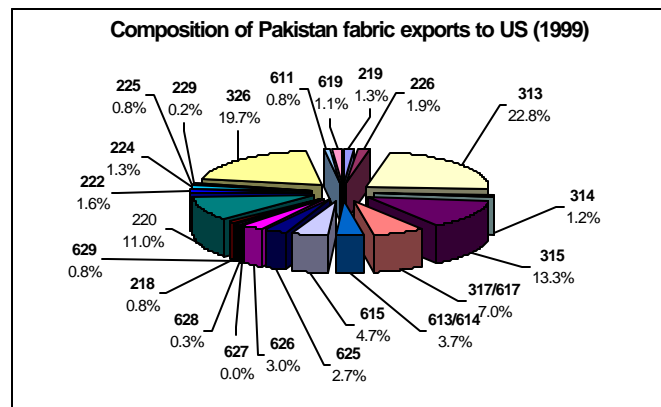


There are a total of 31 MFA categories that lie in the fabrics' segment. The break-up according to the said three-segment criterion is shown in the above chart. Thirteen categories are restricted under quota for exports of Pakistan that make 26% (US\$ 1,260 million) of total US fabric imports. Pakistan is also exporting in another nine categories not restricted by quota that make a 55% (US\$ 2,659 million) of US fabric import market. Finally, Pakistan left the remaining nine categories untouched in the year 1999 thus leaving 19% (US\$ 923 million) of the market untapped. Pakistan exported fabric worth of US\$ 195.64 million out of which US\$ 122.445 million came from quota restricted categories while the remaining US\$ 73.195 million came from quota free categories.

The nine categories that remain untouched constitute of almost one-fifth of the total US fabric imports i.e. a market of US\$ 923 million out of a total fabric market of US\$ 4842 million. Pakistan is the fourth largest fabric supplier (based on quantity ranking) to the US market and this is also obvious from the chart above that shows our presence in 81% of the categories.

We also need to look at the shares of various fabric categories within the fabric exports of Pakistan. This analysis is carried out using the following pie chart.

Figure 12.12.2: Fabric Exports Product Mix to the USA



The alarming fact is that similar to that of yarn, we are heavily relying on a few categories i.e. 313 (a share of 22.8%), 315 (a share of 13.3%) and 326 (a share of 19.7%) that make up more than half of our exports. Categories 313 and 315 are restricted by quota while category 326 is unrestricted. We earned US\$ 109 million out of total exports of US\$ 196 million from these three categories. The other nineteen categories thus constitute less than half of our fabric exports implying that our presence in these categories is not significant. Though we are present in many categories, but similar to the case of yarn, we are dependent on a few categories for a major chunk of our fabric exports.

12.12.1.1. Apparel

The apparel exports of Pakistan to the US are given in the following table:

Figure 12.12.1: Apparel Exports to the USA

Exports to US (\$ million, 1999)			
	HTS Codes	World	Pakistan
Exports under quota	237	252.540	2.449
	239	1,428.198	9.983
	331/631	221.715	8.369
	334/634	1,495.982	24.154
	335/635	1,385.666	10.564
	336/636	1,478.591	14.023
	338	4,396.913	349.247
	339	3,633.846	73.422
	340/640	2,882.014	40.039
	341/641	1,893.831	6.813
	342/642	934.922	5.733
	347/348	8,665.528	74.581
	351/651	1,125.835	14.547
	352/652	2,997.756	8.522
	359/659	2,741.214	40.135
	638/639	3,330.156	6.158
	647/648	2,733.788	19.503
	Sub Total	41,598.495	708.242
Exports in unrestricted categories	345	441.970	2.717
	431	11.505	0.047
	438	322.215	0.069
	445	225.799	0.011
	643	63.826	0.146
	644	216.112	0.081
	650	142.206	3.122
	Sub Total	1,423.633	6.193

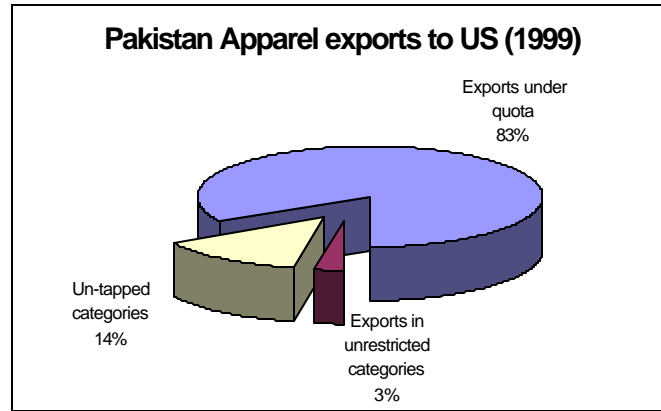
The apparel categories in which Pakistan is not present are given (alongwith US import) in the table on the next Page.

Figure 12.12.2: Apparel Exports to the USA II

Exports to US (\$ million, 1999)			
	HTS Codes	World	Pakistan
Un-tapped categories	330	11.147	
	333	25.237	
	432	12.355	
	433	317.538	
	435	449.455	
	436	49.718	
	439	3.592	
	440	31.973	
	442	166.977	
	443	593.898	
	444	56.578	
	446	619.047	
	447	233.929	
	448	197.695	
	459	160.671	
	630	7.767	
	632	397.676	
	633	105.567	
	645	84.532	
	646	392.594	
	649	1,151.329	
	653	103.972	
	654	100.619	
	831	3.578	
	832	4.437	
	833	28.339	
	834	13.135	
	835	86.844	
	836	131.330	
	838	233.771	
	839	8.498	
	840	295.571	
842	64.049		
844	11.977		
845	371.596		
846	25.745		
847	263.976		
851	0.561		
852	1.406		
858	9.637		
859	63.494		
	Sub Total	6,891.810	
Grand Total		49,913.938	714.435

There are a total of 78 MFA categories that constitute the apparel segment out of which the exports of Pakistan to the US are restricted in 30 categories. The value of our exports in this segment was US\$ 714 million out of which US\$ 708 million came from the quota-restricted categories and only US\$ 6 million came from the unrestricted categories. The division of the apparel market of US according to the previously mentioned three-segment criterion is shown in the Figure 12.12.3.

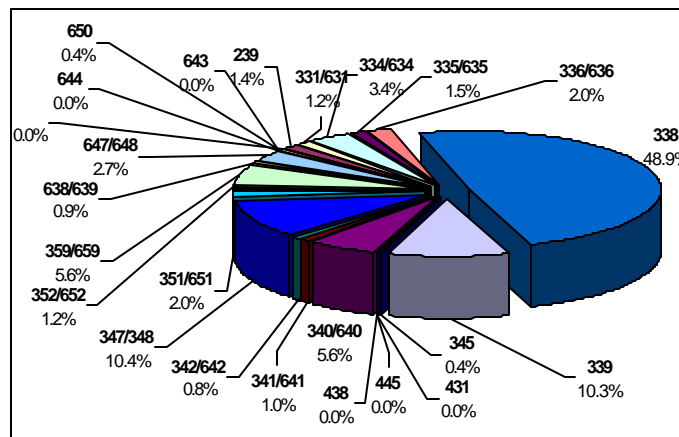
Figure 12.12.3: Pakistan Apparel Export Product Mix



Out of a total US apparel market of US\$ 50 billion, we are present in the major segments that constitute a market of nearly US\$ 43 billion (US\$ 41.5 in restricted categories and \$1.5 in unrestricted categories). The categories that are under quota for Pakistan constitute 83% of the total US market. Pakistan is also exporting in another seven categories that are not restricted by quotas and these categories constitute 3% of US market on the basis of value of US imports in these categories. There are 41 categories that remain untapped and these constitute 14% of the market. So in the apparel segment, we do not face the problem of untapped markets as such since they are only 14% of the total market.

An analysis is also carried out to observe the composition of apparel exports of Pakistan in each category. The data is given in the previous table and is presented in the form of a pie chart as follows.

Figure 12.12.4: Composition of Pakistan Apparel Exports to the USA



The problem of relying on a few categories is significant in this segment as well. This is obvious from the fact that out of our total apparel exports of US\$ 714 million to the US, almost US\$ 423 million (nearly 60%) comes from only two categories i.e. 338 and 339 (both restricted by quota) representing knit shirts. Another US\$ 78 million (nearly 11%) comes from another two categories of 340 (shirts) and 359 (cotton apparel) which are both restricted by quota. This makes four categories contributing to nearly three-fourth

of our exports. So in the apparel segment, though we are present in almost all the major categories but our presence is not significant in most of the categories; as was the case with our yarn and fabric exports.

Another interesting thing to note is that out of total US apparel imports of US\$ 50 billion, our exports to US are restricted in categories that make US imports of \$ 41.6 billion i.e. quota restraints on 83% of imports. This shows the US policy of postponing the integration of "commercially meaningful" high value added products till the last day of the agreement.

12.12.1.2. Made-ups

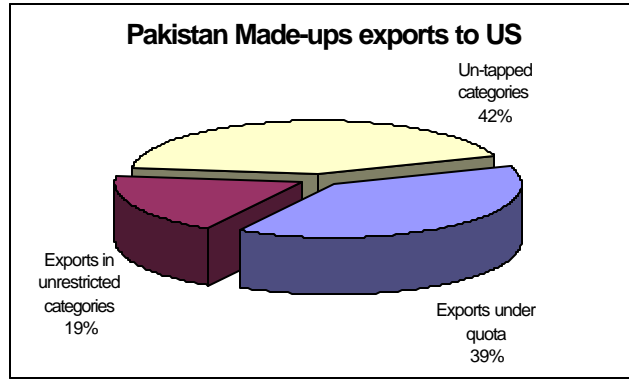
The exports of Pakistan to the US in the made-ups segment are given in the following table:

Figure 12.12.1: Made ups Exports to the USA

Exports to US (\$ million, 1999)			
	HTS Codes	World	Pakistan
Exports under quota	360	71.923	6.824
	361	278.689	33.942
	363	414.263	58.297
	369	1,238.404	184.347
	666	508.438	56.060
	Sub Total	2,511.717	339.470
Exports in unrestricted categories	362	441.875	61.022
	465	761.157	88.997
	Sub Total	1,203.032	150.019
Un-tapped categories	464	9.637	
	469	10.252	
	665	351.752	
	669	392.810	
	670	1,637.082	
	863	3.537	
	870	261.732	
	871	29.205	
	Sub Total	2,758.341	
Grand Total		6,473.090	489.489

There are 16 MFA categories that constitute the made-ups segment. Pakistan has quota restrictions in five such categories and also exports in another two categories that are not restricted by quota under the Pak-US bilateral textile agreement. There are a total of nine categories that were not touched by Pakistan in the year 1999. The break-up of our made-ups exports to US according to the previously mentioned three-segment criterion is given in the following pie chart.

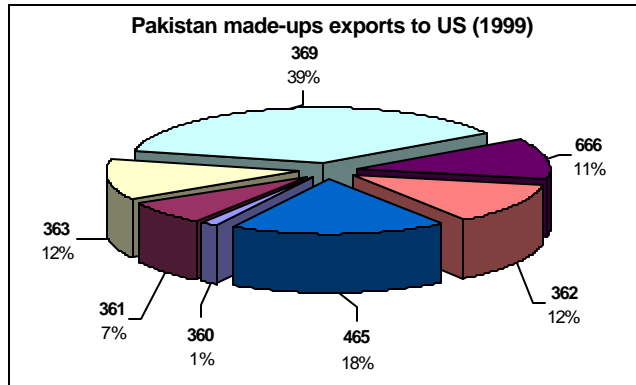
Figure 12.12.2: Pakistan Made-ups Narrow Export Base



The value of US made-ups import in the year 1999 was nearly US\$ 6.5 billion. Pakistan was present in a total of seven categories that comprised a world market of US\$ 3.7 billion representing 58% of total made-ups categories (39% are quota restricted categories and 19% are unrestricted categories). It means that a major component of the made-ups market i.e. US\$ 2.8 billion remains untapped in our case that makes 42% of total categories.

The problem of not diversifying the exports is present in case of made-ups as well. This is shown in the following chart.

Figure 12.12.3: Pakistan Made-ups Exports Product Mix



The made-ups exports of Pakistan are heavily reliant on two product categories that are 369 (cotton manufactures, which is quota-restricted category) and 465 (floor coverings, which is an unrestricted category). Nearly 57% of our made-ups export (US\$ 272 million out of a total of US\$ 490 million) came from these two categories in the year 1999. On the other extreme, category 360, which is restricted by quota, contributes only 1% to our made-ups exports. Thus, in this segment as well we face both the problems of leaving many categories untouched and also relying on a few categories for our exports to US.

12.13. Recommendations

The textile sector of Pakistan is far from meeting the global competition. We need to bring changes to our textile industry to make it globally competitive and responsive to international trends. The following steps are required in this regard.

12.13.1. Broad-based exports

We should diversify our exports and adopt an optimum product mix by tapping into new categories to have broad-based exports. For this purpose, Ministry of Commerce should announce a special incentive such as duty drawback and duty-free import of machinery for exporters who are willing to export in untapped categories.

12.13.2. Revision of quota policy

Our quota policy is based on performance (quantity exported) and it promotes quantity driven exports. We need to change our quota policy to value (unit price realised) to encourage a quality driven textile export sector. It is strongly recommended to change the quota policy with immediate affect.

12.13.3. Exports in unutilised and under-utilised categories

The analysis of our exports led to the conclusion that in many categories, we are only marginally present. Incentives like a lower export refinance rate, liberal financing of working capital needs etc. should be offered for exports in those categories that are under-utilised or unutilised. Similar incentive should be given for those unrestricted categories where our exports are only marginal.

12.13.4. Flow of information

The flow of quota information should be such that updates on quota information should be available to both the exporters and importers at any point in time. A timely flow of information keeps the importer and the exporter up-to-date about the available quota levels and helps to promote exports.

12.13.5. Quality incentives

An incentive package should be announced for those exporters who export value-added and high quality products in order to encourage a quality rather than quantity driven textile sector.

12.13.6. Global competitiveness

Measures should be taken to ensure our global competitiveness in the years to come such that we would be able to export even in absence of quotas, when ATC is fully implemented. These measures include compliance with international quality standards, switching to efficient processes and production methods and bringing built-in responsiveness to global trends in our production and exports.

12.13.7. Anti-dumping and Countervailing duty cases

Both EU and US have aggressively used the ATC provisions of imposing anti-dumping (AD) and countervailing duties (CVD) in order to provide protection to their domestic industry. Initiation of such trade policy instruments against imports from developing countries has been very disappointing. In many cases, the exporting countries were deprived of their rights. We need to tackle such things on an international level such that our efforts become successful. A special body needs to be established, preferably in connection with other third world exporters to prevent EU and US from misusing such provisions.

12.13.8. Social conditions

One of the most controversial issues that were left open in Uruguay round was relationship between social conditions and international trade. Developed countries want to introduce specific provisions in rules for international trade regarding social conditions. These provisions include a ban on child labour and forced labour, use of environment friendly processes and raw materials, disposal of wastes etc. The developing

countries fear that these proposed provisions will be used as a new form of disguised-protectionism. Though such issues have never been materialised, but we need to be pre-emptive and fight such unacceptable issues in connection with other exporting countries. These measures are a threat not only to our textile exports but also our exports in every other sector.

12.13.9. Regional blocks

The intra region trade among member countries of regional trade blocks like NAFTA (North American Free Trade Agreement, having US, Canada and Mexico as its members) and EU (European union, having fifteen European countries as members) accounts for a major component of international trade. The member countries of such trade blocks give each other preferential treatment as regards international trade. EU and US are major importers of our textile produce and any changes in their regional trade have a direct impact on our exports. Even after the implementation of WTO, member countries of such regional economies will keep on getting preferential treatment. The enlargement of EU (inclusion of central and Eastern European states) and NAFTA (to FTAA -Free Trade Area of the Americas-) will extend this benefit to more neighbouring countries thus increasing competition for Pakistan and other developing countries. According to UNCTAD, such enlargement will intensify competition in textile and clothing exports. Ministry of commerce should devote a special wing to take care of such trade developments. This wing should be given the responsibility to negotiate preferential arrangements with large importers of our products and to find alternate markets in case of loss of markets due to regional trade developments.

12.13.10. Expansion of WTO

A number of countries will be becoming a member of WTO in the years to come. The inclusion of China and many Russian states will have potential affect on our exports, especially textiles. These countries include both the importers and exporters of textiles. The proposed wing of Ministry of Commerce to deal with regional trade blocks should also be given the task to forecast and evaluate the impact of WTO expansion on our exports. This wing should give recommendations to our exporters to keep them in line with the international trade developments.

12.13.11. Co-ordination between Government and exporters

A strong co-ordination needs to be established between the government and the entrepreneurs to meet the challenges of changing global trends. A timely flow of information in both the directions and prompt actions taken on the basis of the information obtained (changing both the internal and external policy matters affecting our production and trade) will lead to an export conducive environment.

12.13.12. Implementation of ATC

EU and US have postponed the integration of "import sensitive" and "commercially meaningful" products till the last day of the agreement. As a result, their domestic producers are not exposed to global competition. On the last day of implementation of ATC, when all the textile and apparel products are integrated into normal GATT rules, it is feared that the US and EU producers will put pressure on government for extended protectionism. If this is the case in future, we will not be able to get any benefit out of the implementation of ATC. To prevent such things from happening, Pakistan needs to show its concerns to TMB. It is strongly recommended to launch an aggressive campaign, alongwith other developing countries, to show our concerns about implementation of WTO agreements. The coverage of such a campaign should encompass other agreements alongwith ATC.

12.14. Conclusion

According to our preliminary study, the implementation of ATC is going to affect textile exports of Pakistan to a large extent, if implemented in its true spirit. At one hand, it will enable us to push our exports in those categories that have a potential of greater exports but are limited by the quota constraints. But on the other hand, the exports that we merely get are because of the quota allocated and not because of our competitiveness, we will loose them when quotas will be completely abolished under the ATC.

Agreement on Textiles and Clothing, when fully implemented will not only affect our exportable products but each and every textile good that we produce. Under WTO, we are required to open up our markets to the rest of the world and this means that we will have to allow all the textile producers to sell their products in our markets. We will only be able to compete globally if we are able to reduce our costs and improve our quality to the tune of international standards, whether its textiles or any other sector of the economy. Moreover, the market share that we get just because of allocated quota will no longer be available once MFA is completely phased out and all the textile export is free from quotas.

The developed nations are the ones who are going to get maximum benefit out of WTO agreements and even then they are so careful. We need to be careful as well so that by avoiding the possible implications, we can get maximum benefit out of WTO agreements implementation.

EU and US have postponed the integration of "import sensitive" products until the last day of the agreement. This extended protectionism is giving them enough time to make their industry globally competitive by modernisation and introducing efficient processes. It is feared that by 2005, when ATC is fully implemented US and EU may have become as competitive as the third world in many key areas. The new era for the textile industry will set in the year 2005. Every country is gearing up to meet the challenges of that era. If we want to guarantee our position as an exporter of textile and apparel products in the future, we need to modernise our industry and meet the challenge of cost reduction and quality up-gradation to an extent that the developed world is not able to match our quality and cost combination.

The textile sector of Pakistan has a lot of potential. We have not been able to make an optimum use of this potential because of the short-term ad-hoc policies that have governed this sector. We need to work out a long-term plan for the sustainable development of this sector. We strongly believe that if the new textile policies are formulated in line with our recommendations, these will help us boost our exports both in the short and the long run.

ANNEXTURES

ANNEX I-----List of MFA members

Argentina	Romania
Austria	Singapore
Bangladesh	Spain
Belgium	Sri Lanka (Ceylon)
Brazil	Sweden
Canada	Switzerland
China	Thailand
Columbia	Turkey
Costa Rica	United Kingdom
Czechoslovakia	Uruguay
Denmark	Yugoslavia
Dominican Republic	
Egypt	
El Salvador	
Finland	
France	
Germany	
Greece	
Guatemala	
Hong Kong	
Hungary	
India	
Indonesia	
Ireland	
Italy	
Jamaica	
Japan	
Korea, South	
Luxembourg	
Macau	
Malaysia	
Mexico	
Neth. Antilles, Aruba	
Netherlands	
Norway	
Pakistan	
Peru	
Philippines	
Poland	
Portugal	

ANNEX II-----List of Products Covered by ATC

This Annex lists textile and clothing products defined by Harmonised Commodity Description and Coding System (HS) codes covered by ATC.

The following categories are completely covered.

HS No. Product Description

Ch. 50	Silk
Ch. 51	Wool, fine/coarse animal hair, horsehair yarn & fabric
Ch. 52	Cotton
Ch. 53	Other vegetable textile fibres; paper yarn & woven fabric
Ch. 54	Man-made filaments
Ch. 55	Man-made staple fibres
Ch. 56	Wadding, felt & non-woven; yarns; twine, cordage, etc.
Ch. 57	Carpets and other textile floor coverings
Ch. 58	Special woven fabric; tufted textile fabric; lace; tapestries etc.
Ch. 59	Impregnated, coated, cover/laminated textile fabric etc.
Ch. 60	Knitted or crocheted fabrics
Ch. 61	Art of apparel & clothing access, knitted or crocheted
Ch. 62	Art of apparel & clothing access, not knitted/crocheted
Ch. 63	Other made up textile articles; sets; worn clothing etc.

The textile and clothing products covered from Chapters 30-49 and 64-96 are

HS No. Product Description

3005.90	Wadding, gauze, bandages and the like
ex 3921.12}	{
ex 3921.13}	{Woven, knitted or non-woven fabrics coated, covered or laminated with plastics
ex 3921.90}	{
ex 4202.12}	{
ex 4202.22}	{Luggage hand bags and flat goods with an outer surface predominantly of
ex 4202.32}	{textiles materials
ex 4202.92}	{
ex 6405.20	Footwear with soles and uppers of wool felt
ex 6406.10	Footwear uppers of which 50% or more of the external surface area is textile material
ex 6406.99	Leg warmers and gaiters of textile material
6501.00	Hat-forms, hat bodies and hoods of felt; plateaux and manchons of felt
6502.00	Hat-shapes, plaited or made by assembling strips of any material
6503.00	Felt hats and other felt headgear
6504.00	Hats & other headgear, plaited or made by assembling strips of any material
6505.90	Hats & other headgear, knitted or made up from lace, or other textile material
6601.10	Umbrellas and sun umbrellas, garden type
6601.91	Other umbrella types, telescopic shaft
6601.99	Other umbrellas
ex 7019.	10 Yarns of fibre glass
ex 7019.	20 Woven fabrics of fibre glass
8708.21	Safety seat belts for motor vehicles

8804.00	Parachutes; their parts and accessories
9113.90	Watch straps, bands and bracelets of textile materials
ex 9404.	90 Pillow and cushions of cotton; quilts; eiderdowns; comforters and similar articles of textile materials
9502.91	Garments for dolls
ex 9612.	10 Woven ribbons, of man-made fibres, other than those measuring less than 30 mm in width and permanently put up in cartridges

ANNEX III----SIGL Product Codes

Category	Description
1	Cotton yarn, not put up for retail sale
2	Woven fabrics of cotton, other than gauze, terry fabrics, pile fabrics, chenille fabrics, tulle and other net fabrics
2 A	Of which: Other than unbleached or bleached
3	Woven fabrics of synthetic fibres (discontinuous or waste) other than narrow woven fabrics, pile fabrics (incl. Terry fabrics) and chenille fabrics
3 A	Of which: Other than unbleached or bleached
4	Shirts, T-shirts, lightweight fine knit roll, polo or turtle necked jumpers and pullovers (other than of wool or fine animal hair), undervests and the like, knitted or crocheted
5	Jerseys, pullovers, slip-overs, waistcoats, twinsets, cardigans, bed-jackets and jumpers (others than jackets and blazers), anoraks, wind-cheaters, waister jackets and the like, knitted or crocheted
6	Men's or boys' woven breeches, shorts other than swimwear and trousers (incl. Slacks); women's or girls' woven trousers and slacks, of wool, of cotton or of man made fibres; lower parts of track suits with lining, others than category 16 or 29, of cotton or of man-made fibres
7	Women's or girls' blouses, shirts and shirt-blouses, whether or not knitted or crocheted, of wool, of cotton or man-made fibres
8	Men's or boys' shirts, other than knitted or crocheted, of wool, cotton or man-made fibres
9	Terry towelling and similar woven terry fabrics of cotton; toilet linen and kitchen linen, other than knitted or crocheted, of terry towelling and woven terry fabrics, of cotton
10	Gloves, mittens and mitts, knitted or crocheted
12	Panty-hose and tights, stockings, understockings, socks, ankle-socks, sockettes and the like, knitted or crocheted, other than for babies, including stockings for varicose veins, other than products of category 70
13	Men's or boys' underpants and briefs, women's or girls' knickers and briefs, knitted or crocheted, of wool, of cotton or of man-made fibres
14	Men's or boys' woven overcoats, raincoats and other coats, cloaks and capes, of wool, of cotton or of man-made textile fibres (other than parkas) (of category 21)
15	Women's or girls' woven overcoats, raincoats and other coats, cloaks and capes; jackets and blazers, of wool, of cotton or of man-made textile fibres (other than parkas) (of category 21)
16	Men's or boys' suits and ensembles, other than knitted or crocheted, of wool, of cotton or of man-made fibres, excluding ski suits; men's or boys' track suits with lining, with an outer shell of a single identical fabric, of cotton or of man-made fibres
17	Men's or boys' jackets or blazers, other than knitted or crocheted, of wool, of cotton or of man-made fibres
18	Men's or boys' singlets and other vests, underpants, briefs, nightshirts, pyjamas, bathrobes, dressing gowns and similar articles, other than knitted or crocheted Women's or girls' singlets and other vests, slips, petticoats, briefs, panties, night-dresses, pyjamas, négliges, bathrobes, dressing gowns and similar articles, other than knitted or crocheted
19	Handkerchiefs, other than knitted or crocheted
20	Bed linen, other than knitted or crocheted

21	Parkas; anoraks, windcheaters, waister jackets and the like, other than knitted or crocheted, of wool, of cotton or of man-made fibres; upper parts of tracksuits with lining, other than category 16 or 29, of cotton or of man-made fibres
22	Yarn of staple or waste synthetic fibres, not put up for retail sale
22 A	Of which: acrylic
23	Yarn of staple or waste artificial fibres, not put up for retail sale
24	Men's or boys' nightshirts, pyjamas, bathrobes, dressing gowns and similar articles, knitted or crocheted
	Women's or girls' night-dresses, pyjamas, négliges, bathrobes, dressing gowns and similar articles, knitted or crocheted
26	Women's or girls' dresses, of wool, of cotton or of man-made fibres
27	Women's or girls' skirts, including divided skirts
28	Trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted, of wool, of cotton or of man-made fibres
29	Women's or girls' suits and ensembles, other than knitted or crocheted, of wool, of cotton or of man-made fibres, excluding ski suits; women's or girls' track suits with lining, with an outer shell of an identical fabric, of cotton or of man-made fibres
31	Brassières, woven, knitted or crocheted
32	Woven pile fabrics and chenille fabrics (other than terry towelling or terry fabrics of cotton and narrow woven fabrics) and tufted textile surfaces, of wool, of cotton or of man-made textile fibres
32 A	Of which: Cotton corduroy
33	Woven fabrics of synthetic filament yarn obtained from strip or the like of polyethylene or polypropylene, less than 3 m wide
	Sacks and bags, of a kind used for the packing of goods, not knitted or crocheted, obtained from strip or the like
34	Woven fabrics of synthetic filament yarn obtained from strip or the like of polyethylene or polypropylene, 3 m or more wide

35	Woven fabrics of synthetic fibres (continuous), other than those for tyres of category 114
35 A	Of which: Other than unbleached or bleached
36	Woven fabrics of continuous artificial fibres, other than those for tyres of category 114
36 A	Of which: Other than unbleached or bleached
37	Woven fabrics of artificial staple fibres
37 A	Of which: Other than unbleached or bleached
38 A	Knitted or crocheted synthetic curtain fabric including net curtain fabric
38 B	Net curtains, other than knitted or crocheted
39	Table linen, toilet linen and kitchen linen, other than knitted or crocheted, other than of terry towelling or a similar terry fabrics of cotton
50	Woven fabrics of sheep's or lambs' wool or of fine animal hair
61	Narrow woven fabrics, and narrow fabrics (bolduc) consisting of warp without weft, assembled by means of an adhesive, other than labels and similar articles of category 62
	Elastic fabrics and trimmings (not knitted or crocheted), made from textile materials assembled from rubber thread
68	Babies' garments and clothing accessories, excluding babies' gloves, mittens and mitts of categories 10 and 87, and babies' stockings, socks and sockettes, other than knitted or crocheted, of category 88
72	Swimwear, of wool, of cotton or of man-made fibres
73	Track suits of knitted or crocheted fabric, of wool, of cotton or of man-made textile fibres
77	Ski suits, other than knitted or crocheted

78	Garments, other than knitted or crocheted, excluding garments of categories 6, 7, 8, 14, 15, 16, 17, 18, 21, 26, 27, 29, 68, 72, 76 and 77
83	Overcoats, jackets, blazers and other garments, including ski suits, knitted or crocheted, excluding garments of categories 4, 5, 7, 13, 24, 26, 27, 28, 68, 69, 72, 73, 74, 75
91	Tents
97	Nets and netting made of twine, cordage or rope and made up fishing nets of yarn, twine, cordage or rope
100	Textile fabrics impregnated, coated, covered or laminated with preparations of cellulose derivatives or of other artificial plastic materials
111	Camping goods, woven, other than pneumatic mattresses and tents

ANNEX IV----EU Country Wise Designated Quotas and utilization

Pakistan

Category	Year	Quota *	Working Lv [~]	Licensed	%Qu Used	%WL Used
1	99	18,005,000	14,055,214	11,640,381	64.65	82.82
2	99	35,006,000	34,460,788	33,266,276	95.03	96.53
2A	99	9,910,000	11,115,060	7,351,528	74.18	66.14
3	99	52,118,000	53,358,279	52,945,915	101.59	99.23
4	99	28,912,000	32,959,680	29,917,317	103.48	90.77
4C	99	2,409,333	2,409,333	0	0.00	0.00
5	99	7,938,000	9,049,320	8,335,275	105.00	92.11
6	99	31,150,000	35,511,000	31,551,149	101.29	88.85
7	99	19,450,000	12,202,111	3,109,845	15.99	25.49
8	99	5,665,000	5,497,304	1,718,569	30.34	31.26
9	99	8,035,000	10,297,915	9,676,568	120.43	93.97
18	99	18,792,000	17,420,000	7,096,691	37.76	40.74
20	99	30,357,000	36,334,458	35,522,731	117.02	97.77
26	99	19,035,000	17,267,450	2,763,542	14.52	16.00
28	99	68,792,000	70,387,440	25,274,531	36.74	35.91
39	99	11,636,000	12,450,520	7,474,388	64.24	60.03

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	98	17,375,000	14,624,371	14,532,548	83.64	99.37
2	98	33,781,000	36,800,882	36,781,418	108.88	99.95
2A	98	9,117,000	9,169,901	8,408,222	92.23	91.69
3	98	49,261,000	53,466,276	53,371,296	108.34	99.82
4	98	26,958,000	28,699,341	26,117,717	96.88	91.00
4C	98	2,246,500	2,246,500	58,619	2.61	2.61
5	98	7,302,000	7,758,927	6,946,053	95.13	89.52
6	98	29,044,000	30,873,585	27,900,210	96.06	90.37
7	98	17,893,000	6,258,317	4,340,652	24.26	69.36
8	98	5,429,000	5,410,852	2,535,553	46.70	46.86
9	98	7,392,000	8,478,675	8,466,889	114.54	99.86
18	98	17,288,000	13,723,340	5,467,334	31.63	39.84
20	98	27,742,000	31,511,387	31,483,579	113.49	99.91
26	98	17,511,000	14,459,320	2,795,335	15.96	19.33
28	98	63,286,000	62,900,580	27,773,753	43.89	44.16
39	98	10,850,000	10,044,980	7,855,137	72.40	78.20

* Quantitative limit set for the year.

• Working level is the quota level as adjusted following the use of flexibility provisions provided for in the agreement.

Small and Medium Enterprise Development Authority
Government of Pakistan



Category	Year	Quota*	Working Lv ⁻	Licensed	%Qu Used	%WL Used
1	97	16,767,000	15,619,328	15,532,935	92.64	99.45
2	97	32,599,000	34,901,642	34,655,980	106.31	99.30
2A	97	8,387,000	8,409,829	7,466,606	89.03	88.78
3	97	46,560,000	50,670,358	50,670,339	108.83	100.00
4	97	25,135,000	26,775,779	24,399,850	97.08	91.13
4C	97	1,979,750	1,979,750	128,774	6.50	6.50
5	97	6,718,000	7,157,073	6,531,960	97.23	91.27
6	97	27,081,000	29,423,335	26,741,106	98.74	90.88
7	97	16,461,000	6,506,952	4,317,999	26.23	66.36
8	97	5,202,000	5,187,738	2,863,239	55.04	55.19
9	97	6,800,000	8,641,495	8,620,692	126.77	99.76
18	97	15,904,000	14,168,120	5,683,830	35.74	40.12
20	97	25,353,000	27,894,139	27,698,408	109.25	99.30
26	97	16,110,000	12,332,230	4,562,947	28.32	37.00
28	97	58,221,000	59,819,950	30,251,576	51.96	50.57
39	97	10,116,000	8,289,910	6,137,031	60.67	74.03

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	96	16,295,000	15,013,811	15,009,891	92.11	99.97
2	96	31,681,000	31,446,502	31,391,935	99.09	99.83
2A	96	7,841,000	7,802,780	6,410,281	81.75	82.15
3	96	44,496,000	47,901,597	47,817,587	107.46	99.82
4	96	23,757,000	27,267,530	26,916,488	113.30	98.71
4C	96	1,979,750	1,979,750	32,616	1.65	1.65
5	96	6,281,000	6,690,080	6,667,288	106.15	99.66
6	96	25,596,000	27,283,770	24,851,188	97.09	91.08
7	96	15,390,000	7,277,452	4,795,703	31.16	65.90
8	96	5,027,000	5,366,646	4,893,576	97.35	91.18
9	96	6,357,000	7,830,724	7,829,506	123.16	99.98
18	96	14,869,000	9,701,310	5,841,619	39.29	60.21
20	96	23,575,000	25,077,742	25,076,211	106.37	99.99
26	96	15,061,000	14,987,570	5,915,229	39.28	39.47
28	96	54,432,000	54,166,770	37,614,637	69.10	69.44
39	96	9,562,000	95,232,200	5,658,383	59.18	5.94

* Quantitative limit set for the year.

♦ Working level is the quota level as adjusted following the use of flexibility provisions provided for in the agreement.

Small and Medium Enterprise Development Authority
Government of Pakistan



Category	Year	Quota [*]	Working Lv [†]	Licensed	%Qu Used	%WL Used
1	95	15,835,000	15,611,881	15,565,529	98.30	99.70
2	95	30,788,000	33,049,012	32,992,148	107.16	99.83
2A	95	7,331,000	7,295,300	5,148,452	70.23	70.57
3	95	42,523,000	42,196,021	41,905,291	98.55	99.31
4	95	22,455,000	23,935,710	22,548,377	100.42	94.20
4C	95	1,863,765	1,863,765	41,151	2.21	2.21
5	95	5,872,000	6,254,410	5,284,132	89.99	84.49
6	95	24,193,000	25,788,300	19,958,852	82.50	77.39
7	95	14,388,000	6,717,388	4,179,840	29.05	62.22
8	95	4,858,000	5,186,224	4,964,133	102.18	95.72
9	95	5,944,000	6,331,170	5,929,910	99.76	93.66
18	95	13,902,000	12,541,350	7,014,188	50.45	55.93
20	95	21,922,000	23,928,992	23,447,167	106.96	97.99
26	95	14,081,000	7,153,313	5,658,316	40.18	79.10
28	95	50,890,000	54,204,360	33,858,805	66.53	62.47
39	95	9,037,000	8,342,590	5,933,473	65.66	71.12

* Quantitative limit set for the year.

† Working level is the quota level as adjusted following the use of flexibility provisions provided for in the agreement.

China

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	99	3,866,000	3,788,930	194,946	5.04	5.15
2	99	28,854,000	31,662,320	30,471,757	105.61	96.24
2A	99	3,726,000	3,986,820	3,728,962	100.08	93.53
2G	99	1,393,000	1,490,510	186,249	13.37	12.5
2N	99	1,925,000	2,059,750	971,704	50.48	47.18
3	99	5,915,000	5,888,200	5,408,701	91.44	91.86
3A	99	739	790,73	711,585	96.29	89.99
4	99	75,137,853	79,438,863	75,546,068	100.54	95.1
4C	99	6,486,833	6,486,833	2,645,551	40.78	40.78
5	99	24,527,000	25,816,173	25,122,558	102.43	97.31
5A	99	227	242,89	238,282	104.97	98.1
6	99	25,944,000	26,155,959	25,900,121	99.83	99.02
6S	99	1,130,000	1,170,717	1,124,887	99.55	96.09
7	99	12,363,000	12,600,763	11,974,613	96.86	95.03
8	99	17,372,000	14,825,409	14,712,174	84.69	99.24
9	99	5,807,000	6,213,490	5,412,972	93.21	87.12
10	99	76,289,000	85,989,209	82,069,963	107.58	95.44
12	99	28,433,000	32,007,075	31,197,937	109.72	97.47
13	99	478,504,000	517,718,483	514,498,709	107.52	99.38
14	99	11,284,000	12,750,920	11,737,247	104.02	92.05
15	99	15,123,000	16,717,753	16,324,693	107.95	97.65
16	99	15,590,000	17,616,700	7,912,662	50.75	44.92
17	99	10,489,000	11,852,570	7,309,978	69.69	61.67
18	99	5,695,000	6,170,516	6,080,079	106.76	98.53
19	99	98,847,000	105,766,290	76,485,950	77.38	72.32
20/39	99	9,134,000	10,686,780	10,177,457	111.42	95.23
21	99	16,394,000	18,525,220	16,968,240	103.5	91.6
21C	99	1,366,167	1,366,167	538,586	39.42	39.42
22	99	16,090,000	15,930,530	7,260,245	45.12	45.57
23	99	10,917,000	3,434,139	21,118	0.19	0.61
24	99	41,071,000	46,410,230	41,223,546	100.37	88.82
24C	99	3,422,583	3,422,583	1,208,111	35.3	35.3
26	99	5,143,000	5,453,842	5,345,322	103.93	98.01
28	99	65,003,000	69,915,033	69,143,882	106.37	98.9
29	99	11,013,000	11,783,910	10,497,428	95.32	89.08
31	99	67,123,000	71,830,686	71,185,781	106.05	99.1
32	99	3,976,000	4,254,320	1,559,482	39.22	36.66
33	99	25,237,000	22,003,590	8,685,190	34.41	39.47
37	99	13,386,000	14,323,020	4,815,113	35.97	33.62
37A	99	3,967,000	4,244,690	992,876	25.03	23.39
68	99	18,922,000	21,381,860	20,879,621	110.35	97.65
73	99	5,374,000	6,072,620	5,775,802	107.48	95.11
73C	99	447,833	447,833	118,041	26.36	26.36
76	99	7,027,000	7,670,341	7,222,487	102.78	94.16
78	99	26,362,000	28,333,787	27,730,640	105.19	97.87
97	99	1,942,000	2,194,460	1,569,307	80.81	71.51
163	99	4,486,000	4,875,598	4,704,575	104.87	96.49

Category	Year	Quota	Working Lv	Licensed	% Qu Used	% WL Used
1	98	3,790,000	3,496,500	440,969	11.64	12.61
2	98	28,818,000	28,867,180	26,301,079	91.27	91.11
2A	98	3,721,000	3,728,092	2,649,441	71.2	71.07
2G	98	1,391,000	1,293,490	181,129	13.02	14
2N	98	1,923,000	1,788,250	1,184,589	61.6	66.24
3	98	5,912,000	6,148,270	5,215,763	88.22	84.83
3A	98	735	764,12	689,291	93.78	90.21
4	98	77,212,000	79,210,171	78,927,810	102.22	99.64
4C	98	6,434,333	6,434,333	1,849,633	28.75	28.75
5	98	24,299,000	25,022,259	24,927,896	102.59	99.62
5A	98	222	222,72	197,199	88.83	88.54
6	98	25,662,000	26,137,350	26,083,639	101.64	99.79
6S	98	1,099,000	1,077,283	1,075,042	97.82	99.79
7	98	12,248,000	12,478,698	12,390,104	101.16	99.29
8	98	17,210,000	17,274,267	17,245,195	100.2	99.83
9	98	5,772,000	6,115,870	4,010,451	69.48	65.57
10	98	73,355,000	76,530,301	76,285,604	104	99.68
12	98	27,910,000	29,135,922	29,108,429	104.29	99.91
13	98	473,766,000	513,406,319	511,790,706	108.03	99.69
14	98	10,902,000	11,074,616	9,586,195	87.93	86.56
15	98	14,845,000	15,344,286	15,173,019	102.21	98.88
16	98	15,512,000	15,506,540	5,007,535	32.28	32.29
17	98	10,283,000	10,885,560	9,311,710	90.55	85.54
18	98	5,590,000	5,971,992	5,947,776	106.4	99.59
19	98	98,111,000	103,946,140	74,668,461	76.11	71.83
20/39	98	9,071,000	9,887,390	7,936,427	87.49	80.27
21	98	16,142,000	16,422,886	14,760,223	91.44	89.88
21C	98	1,345,166	1,345,166	407,583	30.3	30.3
22	98	15,951,000	11,626,164	6,591,263	41.32	56.69
23	98	10,836,000	2,994,455	19,127	0.18	0.64
24	98	39,682,000	39,584,770	30,878,610	77.82	78.01
24C	98	3,306,833	3,306,833	1,083,619	32.77	32.77
26	98	5,095,000	5,755,088	5,727,209	112.41	99.52
28	98	63,110,000	67,545,655	67,352,898	106.72	99.71
29	98	10,692,000	11,311,050	6,940,673	64.91	61.36
31	98	65,168,000	72,959,534	72,562,271	111.35	99.46
32	98	3,946,000	3,943,900	2,362,570	59.87	59.9
33	98	24,150,000	22,538,270	6,949,605	28.78	30.83
37	98	13,221,000	13,209,450	5,705,348	43.15	43.19
37A	98	3,918,000	3,914,570	359,281	9.17	9.18
68	98	18,282,000	19,334,120	18,493,988	101.16	95.65
73	98	5,307,000	5,380,359	4,916,430	92.64	91.38
73C	98	442,25	442,25	102,869	23.26	23.26
76	98	6,692,000	7,047,129	7,033,221	105.1	99.8
78	98	25,594,000	28,204,365	27,951,420	109.21	99.1
83	98	7,518,000	8,494,516	8,456,464	112.48	99.55
97	98	1,876,000	1,871,380	1,327,738	70.77	70.95
163	98	4,272,000	4,678,831	4,676,261	109.46	99.95

Category	Year	Quota	Working Lv	Licensed	% Qu Used	% WL Used
1	97	3,715,000	3,364,180	776,215	20.89	23.07
2	97	28,761,000	29,044,620	27,431,883	95.38	94.45
2A	97	3,713,000	3,712,440	2,246,231	60.5	60.51
2G	97	1,386,000	1,386,000	72,756	5.25	5.25
2N	97	1,915,000	1,915,000	1,192,282	62.26	62.26
3	97	5,796,000	5,636,140	5,351,038	92.32	94.94
3A	97	721	673,359	554,241	76.87	82.31
4	97	76,221,000	73,027,098	72,916,034	95.66	99.85
4C	97	6,270,250	6,270,250	967,491	15.43	15.43
5	97	23,940,000	23,079,236	23,039,392	96.24	99.83
5A	97	222	224,05	197,844	89.12	88.3
6	97	25,221,000	25,542,652	25,533,639	101.24	99.96
6S	97	1,099,000	1,100,382	1,098,143	99.92	99.8
7	97	12,067,000	11,835,434	11,802,996	97.81	99.73
8	97	16,956,000	16,942,312	16,915,723	99.76	99.84
9	97	5,631,000	5,958,990	3,570,151	63.4	59.91
10	97	70,533,000	80,294,740	79,093,113	112.14	98.5
12	97	27,097,000	29,782,310	29,124,472	107.48	97.79
13	97	469,076,000	503,220,208	494,625,247	105.45	98.29
14	97	10,533,000	11,593,914	11,584,773	109.99	99.92
15	97	14,413,000	15,990,731	15,955,909	110.7	99.78
16	97	15,207,000	15,045,780	3,816,481	25.1	25.37
17	97	10,081,000	9,974,130	8,734,030	86.64	87.57
18	97	5,427,000	5,744,170	5,719,018	105.38	99.56
19	97	95,254,000	104,693,690	68,800,522	72.23	65.72
20/39	97	8,828,000	9,703,510	7,689,575	87.1	79.25
21	97	15,749,000	16,009,926	15,971,103	101.41	99.76
21C	97	1,280,333	1,280,333	558,33	43.61	43.61
22	97	15,411,000	13,832,100	5,603,170	36.36	40.51
23	97	10,520,000	1,891,429	98,876	0.94	5.23
24	97	38,340,000	40,546,460	32,809,332	85.57	80.92
24C	97	3,087,000	3,087,000	1,388,521	44.98	44.98
26	97	5,020,000	5,068,700	4,413,997	87.93	87.08
28	97	61,272,000	67,576,452	67,499,660	110.16	99.89
29	97	10,381,000	9,840,180	6,808,159	65.58	69.19
31	97	63,270,000	63,861,990	61,916,170	97.86	96.95
32	97	3,831,000	3,822,950	2,118,922	55.31	55.43
33	97	23,111,000	23,038,270	7,175,568	31.05	31.15
37	97	12,592,000	11,816,707	7,534,302	59.83	63.76
37A	97	3,732,000	3,718,980	443,427	11.88	11.92
68	97	17,663,000	18,679,450	17,273,676	97.8	92.47
73	97	5,203,000	5,320,740	5,314,686	102.15	99.89
73C	97	425,083	425,083	117,796	27.71	27.71
76	97	6,374,000	6,926,175	6,918,273	108.54	99.89
78	97	24,848,000	25,801,813	25,687,162	103.38	99.56
83	97	7,299,000	7,721,610	7,131,299	97.7	92.36
97	97	1,813,000	1,808,590	891,726	49.19	49.31
163	97	4,068,000	4,325,891	4,314,460	106.06	99.74

Hong Kong

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
2	99	13,891,000	14,411,912	2,457,264	17.69	17.05
2A	99	11,922,000	12,369,075	2,004,226	16.81	16.2
3	99	11,433,000	11,861,737	3,659	0.03	0.03
3A	99	7,674,000	7,961,775	1,832	0.02	0.02
4	99	47,106,000	48,636,945	48,082,629	102.07	98.86
4C	99	2,355,300	2,355,300	2,328,926	98.88	98.88
5	99	36,607,000	38,121,238	38,020,915	103.86	99.74
6	99	64,302,000	67,842,688	65,661,401	102.11	96.78
6A	99	53,979,000	56,303,464	55,856,911	103.48	99.21
6AC	99	899,65	899,65	899,28	99.96	99.96
6C	99	1,071,700	1,071,700	170,509	15.91	15.91
7	99	38,071,000	39,022,775	33,183,570	87.16	85.04
8	99	55,087,000	54,972,903	30,855,703	56.01	56.13
10	99	102,496,000	108,133,280	49,878,279	48.66	46.13
12	99	15,986,000	16,705,370	1,793,253	11.22	10.73
13	99	105,831,000	109,005,930	70,341,585	66.47	64.53
13S	99	2,167,000	2,232,010	341	0.02	0.02
16	99	2,829,000	2,984,595	16,647	0.59	0.56
18	99	8,911,000	9,222,885	868,835	9.75	9.42
21	99	21,095,000	21,727,850	16,333,580	77.43	75.17
21C	99	703,167	703,167	697,187	99.15	99.15
24	99	11,151,000	11,708,550	91,778	0.82	0.78
26	99	11,162,000	11,720,100	8,803,596	78.87	75.12
27	99	12,120,000	12,726,000	1,759,981	14.52	13.83
29	99	3,414,000	3,601,770	78,136	2.29	2.17
31	99	27,129,000	28,349,805	20,405,939	75.22	71.98
32	99	8,265,000	8,678,250	375,487	4.54	4.33
39	99	1,766,000	1,854,300	0	0	0
68	99	3,544,000	3,668,040	1,051,789	29.68	28.67
68S	99	823	851,805	210,847	25.62	24.75
73	99	2,677,000	2,757,310	608,826	22.74	22.08
73C	99	133,85	133,85	130,457	97.47	97.47
78	99	11,800,000	12,390,000	7,297,997	61.85	58.9
83	99	591	623,505	563,093	95.28	90.31

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
2	98	13,851,000	13,849,500	2,128,433	15.37	15.37
2A	98	11,887,000	12,332,762	1,849,699	15.56	15
3	98	11,400,000	11,398,763	2,29	0.02	0.02
3A	98	7,652,000	7,938,950	2,29	0.03	0.03
4	98	46,633,000	46,617,627	31,091,144	66.67	66.69
4C	98	2,331,650	2,407,429	2,328,469	99.86	96.72
5	98	36,291,000	38,069,037	38,060,042	104.87	99.98
6	98	63,840,000	64,219,776	63,980,303	100.22	99.63
6A	98	53,591,000	56,787,372	55,785,223	104.09	98.24
6AC	98	893,183	893,183	887,632	99.38	99.38
6C	98	1,050,250	1,050,250	171,693	16.35	16.35
7	98	37,634,000	37,623,075	33,229,879	88.3	88.32
8	98	54,612,000	53,126,053	32,238,760	59.03	60.68
10	98	99,608,000	99,449,160	56,381,892	56.6	56.69
12	98	15,320,000	15,290,030	4,232,380	27.63	27.68
13	98	104,318,000	104,272,610	61,064,594	58.54	58.56
13S	98	2,048,000	2,044,430	0	0	0
16	98	2,769,000	2,765,700	13,353	0.48	0.48
18	98	8,599,000	8,588,080	585,483	6.81	6.82
21	98	20,646,000	20,632,530	15,255,316	73.89	73.94
21C	98	688,2	708,846	689,161	100.14	97.22
24	98	10,761,000	10,741,500	117,881	1.1	1.1
26	98	11,002,000	10,994,000	7,323,249	66.56	66.61
27	98	11,778,000	11,760,900	1,958,886	16.63	16.66
29	98	3,295,000	3,288,455	35,173	1.07	1.07
31	98	25,998,000	25,947,105	13,697,609	52.69	52.79
32	98	7,976,000	7,961,550	284,021	3.56	3.57
39	98	1,716,000	1,713,500	289	0.02	0.02
68	98	3,373,000	3,367,015	769,753	22.82	22.86
68S	98	783	781,6	236,991	30.27	30.32
73	98	2,601,000	2,598,720	1,224,055	47.06	47.1
73C	98	130,05	130,05	127,225	97.83	97.83
78	98	11,388,000	11,367,400	5,643,141	49.55	49.64
83	98	570	568,845	424,258	74.43	74.58

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
2	97	13,811,000	13,809,500	2,613,930	18.93	18.93
2A	97	11,853,000	11,851,725	1,980,896	16.71	16.71
3	97	11,367,000	11,365,762	7,266	0.06	0.06
3A	97	7,630,000	7,629,175	7,266	0.1	0.1
4	97	46,165,000	44,073,272	28,505,334	61.75	64.68
4C	97	2,289,650	2,289,650	2,105,840	91.97	91.97
5	97	35,978,000	36,059,255	36,041,087	100.18	99.95
6	97	63,380,000	62,126,864	62,072,128	97.94	99.91
6A	97	53,205,000	54,408,110	54,387,052	102.22	99.96
6AC	97	881,633	881,633	810,138	91.89	91.89
6C	97	1,050,250	1,050,250	166,312	15.84	15.84
7	97	37,203,000	37,192,225	35,547,757	95.55	95.58
8	97	54,141,000	54,129,225	36,526,489	67.47	67.48
10	97	96,800,000	96,645,560	54,463,556	56.26	56.35
12	97	14,681,000	14,652,245	4,580,663	31.2	31.26
13	97	102,827,000	102,782,270	69,206,480	67.3	67.33
13S	97	1,936,000	1,932,640	19,64	1.01	1.02
16	97	2,710,000	2,706,755	29,187	1.08	1.08
18	97	8,298,000	8,287,465	692,121	8.34	8.35
21	97	20,206,000	20,004,123	18,352,357	90.83	91.74
21C	97	662,033	662,033	605,197	91.41	91.41
24	97	10,384,000	10,365,150	379,009	3.65	3.66
26	97	10,845,000	10,837,150	7,618,610	70.25	70.3
27	97	11,446,000	11,429,400	2,733,981	23.89	23.92
29	97	3,179,000	3,172,620	94,729	2.98	2.99
31	97	24,914,000	24,865,220	14,560,598	58.44	58.56
32	97	7,697,000	7,683,050	259,696	3.37	3.38
39	97	1,668,000	1,665,600	525	0.03	0.03
61	97	2,723,000	2,872,765	8,995	0.33	0.31
68	97	3,210,000	3,204,295	826,55	25.75	25.8
68S	97	745	743,67	333,606	44.78	44.86
72	97	22,565,000	23,806,075	3,067,178	13.59	12.88
73	97	2,528,000	2,525,810	1,662,760	65.77	65.83
73C	97	123,55	123,55	84,501	68.39	68.39
74	97	1,410,000	1,487,550	20,731	1.47	1.39
77	97	810	854,55	26,104	3.22	3.05
78	97	10,989,000	10,969,050	6,342,322	57.72	57.82
83	97	550	548,9	284,031	51.64	51.75

South Korea

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	99	903,000	903	308,062	34.12	34.12
2	99	6,113,000	6,079,600	1,331,508	21.78	21.9
2A	99	1,041,000	1,007,600	622,043	59.75	61.74
3	99	4,914,000	5,005,850	674,113	13.72	13.47
3A	99	835	926,85	634,061	75.94	68.41
9	99	1,400,000	1,400,000	168	0.01	0.01
22	99	17,136,000	16,752,400	803,086	4.69	4.79
32	99	2,601,000	2,601,000	639,942	24.6	24.6
33	99	7,684,000	7,684,000	3,149,173	40.98	40.98
35	99	7,672,000	8,439,200	7,775,410	101.35	92.13
36	99	6,292,000	6,292,000	3,719,086	59.11	59.11
37	99	8,364,000	8,364,000	2,529,472	30.24	30.24
50	99	944	944	5,28	0.56	0.56
97	99	1,716,000	1,716,000	916,097	53.39	53.39
97A	99	549,000	549,000	750	0.14	0.14

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	98	901,000	964,07	811,68	90.09	84.19
2	98	6,104,000	6,193,160	1,246,727	20.42	20.13
2A	98	1,039,000	1,078,810	621,435	59.81	57.6
3	98	4,878,000	5,008,480	710,125	14.56	14.18
3A	98	823	913,53	641,532	77.95	70.23
9	98	1,351,000	1,351,000	1,284	0.1	0.1
22	98	16,308,000	15,919,325	998,116	6.12	6.27
32	98	2,493,000	2,667,510	1,128,619	45.27	42.31
33	98	7,214,000	7,214,000	1,505,806	20.87	20.87
35	98	7,153,000	7,384,410	7,274,419	101.7	98.51
36	98	5,789,000	5,789,000	4,797,850	82.88	82.88
37	98	7,799,000	7,799,000	3,050,326	39.11	39.11
50	98	882,000	882,000	3,611	0.41	0.41
97	98	1,579,000	1,579,000	596,245	37.76	37.76
97A	98	505,000	505,000	0	0	0

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	97	900,000	854,930	584,334	64.93	68.35
2	97	6,095,000	6,062,340	1,124,644	18.45	18.55
2A	97	1,038,000	953,55	509,865	49.12	53.47
3	97	4,843,000	4,874,780	894,856	18.48	18.36
3A	97	812,000	843,71	779,166	95.96	92.35
9	97	1,304,000	970,500	2	0	0
22	97	15,521,000	15,521,000	1,379,113	8.89	8.89
32	97	2,389,000	2,214,490	1,224,115	51.24	55.28
33	97	6,772,000	6,772,000	508,992	7.52	7.52
35	97	6,670,000	7,428,213	7,146,486	107.14	96.21
36	97	5,325,000	5,431,500	4,173,707	78.38	76.84
37	97	7,272,000	7,417,440	5,361,655	73.73	72.28
50	97	825,000	825,000	13,202	1.6	1.6
67	97	1,496,000	1,496,000	309,689	20.7	20.7
91	97	1,049,000	1,049,000	16,259	1.55	1.55
97	97	1,452,000	1,452,000	460,505	31.72	31.72
97A	97	465,000	465,000	0	0	0
100	97	7,182,000	7,182,000	2,574,558	35.85	35.85
111	97	121,000	121,000	1,015	0.84	0.84

India

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	99	39,826,000	40,419,046	32,606,725	81.87	80.7
2	99	57,011,000	57,011,000	47,985,204	84.17	84.2
2A	99	18,088,000	18,088,000	8,568,015	47.37	47.4
3	99	27,747,000	27,747,000	21,899,412	78.93	78.9
3A	99	5,565,000	5,565,000	3,152,108	56.64	56.6
4	99	65,934,000	70,751,330	68,802,944	104.4	97.3
4C	99	5,494,500	5,494,500	4,153,818	75.6	75.6
5	99	35,293,000	39,174,789	38,232,622	108.3	97.6
6	99	8,936,000	9,591,720	9,421,162	105.4	98.2
6C	99	744,667	744,667	690,492	92.72	92.7
7	99	63,279,000	60,989,962	52,229,094	82.54	85.6
8	99	45,802,000	45,550,607	37,868,133	82.68	83.1
9	99	10,153,000	10,153,000	7,732,272	76.16	76.2
15	99	6,313,000	5,981,785	1,015,258	16.08	17
20	99	18,857,000	21,119,840	16,823,294	89.22	79.7
23	99	19,033,000	19,033,000	10,614,275	55.77	55.8
24	99	69,621,000	73,102,050	54,500,300	78.28	74.6
26	99	17,462,000	18,732,240	18,299,809	104.8	97.7
27	99	15,023,000	16,825,770	11,847,761	78.86	70.4
29	99	9,748,000	9,193,883	4,621,511	47.41	50.3
39	99	5,568,000	6,122,181	4,735,922	85.06	77.4

Category	Year	Quota	Working Lv	Licensed	%Qu Used	%WL Used
1	98	38,704,000	38,645,064	38,642,916	99.84	100
2	98	55,601,000	54,884,213	52,851,469	95.05	96.3
2A	98	16,640,000	17,804,800	12,283,490	73.82	69
3	98	26,226,000	25,348,267	25,236,903	96.23	99.6
3A	98	5,260,000	5,628,200	2,479,686	47.14	44.1
4	98	61,895,000	70,067,151	69,965,748	113	99.9
4C	98	5,157,917	5,157,917	4,241,084	82.22	82.2
5	98	32,907,000	33,833,982	32,264,219	98.05	95.4
6	98	8,332,000	9,444,164	9,444,164	113.4	100
6C	98	694,333	694,333	634,149	91.33	91.3
7	98	61,065,000	52,939,958	50,730,477	83.08	95.8
8	98	44,046,000	45,233,946	41,758,084	94.81	92.3
9	98	9,466,000	9,770,080	7,990,217	84.41	81.8
15	98	5,807,000	5,900,427	939,808	16.18	15.9
20	98	17,583,000	18,631,262	16,765,640	95.35	90
23	98	17,510,000	18,735,700	9,668,956	55.22	51.6
24	98	64,048,000	68,531,360	42,328,187	66.09	61.8
26	98	16,504,000	19,639,830	19,639,830	119	100
27	98	14,200,000	15,194,000	11,920,076	83.94	78.5
29	98	9,089,000	9,725,230	2,671,245	29.39	27.5
39	98	5,122,000	5,945,282	5,938,456	115.9	99.9
1	97	37,613,000	37,446,476	37,365,942	99.34	99.8
2	97	54,225,000	52,549,579	52,481,153	96.78	99.9
2A	97	15,308,000	14,143,200	9,257,159	60.47	65.5
3	97	24,788,000	24,723,509	24,719,129	99.72	100
3A	97	4,971,000	4,602,800	2,658,668	53.48	57.8
4	97	58,104,000	64,996,332	64,981,228	111.8	100
4C	97	4,601,750	6,130,000	5,654,121	122.9	92.2
5	97	30,683,000	32,778,432	32,730,532	106.7	99.9
6	97	7,769,000	8,173,946	8,171,627	105.2	100
6C	97	611,917	611,917	347,183	56.74	56.7
7	97	58,929,000	58,805,828	58,690,018	99.59	99.8
8	97	42,357,000	48,826,960	43,732,681	103.3	89.6
9	97	8,826,000	8,762,638	8,670,261	98.24	99
15	97	5,343,000	3,302,920	842,789	15.77	25.5
20	97	16,394,000	17,091,980	17,039,984	103.9	99.7
23	97	16,108,000	14,244,460	12,987,694	80.63	91.2
24	97	58,922,000	53,289,374	46,662,726	79.19	87.6
26	97	15,600,000	21,714,702	20,779,443	133.2	95.7
27	97	13,421,000	13,366,470	10,237,957	76.28	76.6
29	97	8,475,000	6,925,020	3,083,476	36.38	44.5
39	97	4,712,000	4,691,077	4,684,411	99.41	99.9

ANNEX V-----US Country Wise Designated Quotas

HTS Codes*	UOM	Pakistan			China			India		
		1997	1998	1999	1997	1998	1999	1997	1998	1999
300/301	Kg			5,263	2,376	2,299	2,448			
219	m2	8,777	8,193	7,759	2,473	2,417	2,599	63,803	66,578	65,394
226	m2	129,268	126,255	139,722	11,230	10,759	11,799			
313	m2				43,549	42,261	45,131	35,104	36,196	47,649
237	Doz.	255	281	144	2,000	2,119	2,122			
239	Kg	1,775	1,413	887	3,107	3,260	3,325			
314	m2	6,383	5,959	6,945	50,580	52,329	52,147	6,937	7,479	9,216
315	m2	86,035	78,726	87,321	132,432	135,736	137,772	12,967	13,718	14,508
317/617	m2	34,303	32,021	37,390	35,133	35,435	37,331	42,064		32
331/631	DPR	2,536	2,440	3,145	6,650	6,956	6,904			
334/634	Doz.	274	313	358	995	1,013	1,023	153	156	150
335/635	Doz.	428	442	431	1,082	1,090	1,127	508	659	670
336/636	Doz.	465	549	550	743	730	764	901	1,038	1,083
338	Doz.	4,906	5,970	6,055	4,367	4,359	4,381	3,899	4,176	4,479
339	Doz.	1,374	1,589	1,820						
340/640	Doz.	679	719	1,076	2,718	2,754	2,713	1,996	2,355	2,406
341/641	Doz.	723	279	790	2,542	2,044	2,581	8,428	8,921	9,240
342/642	Doz.	358	137	391	616	630	655	1,189	1,212	1,287
347/348	Doz.	922	1,054	1,109	2,454	2,529	2,464	710	788	799.857
351/651	Doz.	310	360	376	1,508	1,540	1,563	265		328.512
352/652	Doz.	774	882	939	4,483	4,705	4,684			
359/659	Kg	1,059	1,621	1,014	5,537	5,586	5,724			
360	no.	5,486	5,378	6,374	13,203	13,374	14,167			
361	no.	6,379	6,610	7,412	4,401	4,553	4,563			
363	no.	46,486	49,485	52,498	22,453	23,003	22,700	42,398	44,959	54,667
369	Kg	13,281	15,739	16,133	14,004	14,176	17,580	1,849	2,134	2,379
613/614	m2	24,078	24,994	27,181	20,104	20,350	20,881			
615	m2	25,615	26,638	28,675	25,577	26,461	26,872			
625	m2	35,486	40,888	41,930						
626	m2	35,486	40,888	41,930						
627	m2	35,486	38,574	41,930						
628	m2	7,342	7,981	8,675						
629	m2	35,486	38,574	41,930						
638/639	Doz.	236	269	271	2,508	2,606	2,580			
647/648	Doz.	724	722	915	2,818	2,834	2,862	415	481	672
666	Kg	5,286	5,300	5,802	4,971	5,050	5,188			

All the quota figures are in thousands

- See ANNEX VI for HTS (Harmonised Tariff Schedule) codes description.

HTS Codes	UOM	S. Korea			Hong Kong			Turkey				
		1997	1998	1999	1997	1998	1999	1997	1998	1999		
300/301	Kg	3,026	3,135	3,249				8,430	8,255	10,589		
219	m2	8,213	8,511	8,820	40,765	42,243	43,774	41,035	40,185	43,681		
226	m2				73,1240	75,7750	78,5220					
313	m2	49,309	51,096	52,949				50,154	49,114	51,776		
237	Doz.	60	62	64	1,179	1,222	1,266					
239	Kg	1,079	251	260	5,404							
314	m2	27,493	28,489	29,522	19,721	20,436	21,176	29,180	28,576	31,062		
315	m2	17,883	18,272	18,670	9,750	10,103	10,470	39,211	38,399	41,739		
317	m2	18,333	18,989	19,677				41,035	40,185	43,681		
326										4,559	4,465	4,853
331/631	DPR				4,868	4,952	5,039					
333/334	Doz.	140	148	153	299	306	312					
335	Doz.	147	155	160	342	345	347	304	291	387		
336/636	Doz.	356	365	369	534	553	574	857	840	913		
338	Doz.	1,389	1,421	1,370	5,095	5,132	5,169					
339	Doz.			0	0	0	0					
340/640	Doz.	6,839	3,525	6,978	3,741	3,789	3,838	2,113	2,014	1,489		
341/641	Doz.	1,245	1,325	1,328	3,664	3,691	3,717	2,193	2,091	2,212		
342/642	Doz.	253	252	250	800	821	843	954	935	1,016		
347/348	Doz.	565	590	552	13,409	13,485	13,552	7,441	6,854	8,792		
351/651	Doz.	262	258	267	1,523	1,544	1,557	837	1,047	1,167		
352/652	Doz.	194	201	208	11,869	12,264	12,672	2,744	1,330	3,053		
359/659	Kg	4,065	6,585	4,453	2,851	2,936	3,023					
360	no.											
361	no.							1,935	2,281	2,431		
363	no.	1,056	1,094	1,134								
369	Kg				801	830	860	2,000	1,882	2,263		
613/614	m2	6,013	6,231	6,457								
615	m2											
617					4,055	4,202	4,354	27,357	26,790	29,120		
625	m2	16,780	17,388	18,018				7,855	8,538	8,909		
626	m2									7,389	7,236	7,865
627	m2									7,389	7,236	7,865
628	m2									7,389	7,236	7,865
629	m2									7,389	7,236	7,865
634	Doz.				502	513	524					
635	Doz.				1,031	1,053	1,073					
638/639	Doz.	5,425	5,501	5,498	4,884	4,920	4,932					
647/648	Doz.	1,233	1,329	1,396	2,849	2,902	2,953					

All the quota figures are in thousands

ANNEX VI---Harmonized Tariff Schedule (HTS) codes

200 series are of cotton and/or man-made fibre

300 series are of cotton

400 series are of wool

600 series are of man-made fibre

800 series are of silk blends or non-cotton vegetable fibres

YARN:**Category Description**

Table

200	Yarns put up for retail sale, and sewing thread
201	Speciality yarns
300	Carded cotton yarn
301	Combed cotton yarn
400	Wool yarn
600	Textured filament yarn
603	Yarn containing 85% or more by weight artificial staple fibre
604	Yarn containing 85% or more by weight synthetic staple fibre
606	Non-textured filament yarn
607	Other staple fibre yarn
800	Silk blends or non-cotton vegetable fibre yarn

FABRIC:

Category **Description**
Table

218	Of yarns of different colour
219	Duck
220	Fabric of special weave
222	Knit fabric
223	Non-woven fabric
224	Pile & tufted fabric
225	Blue denim
226	Cheesecloth, batiste, lawn, voile
227	Oxford cloth
229	Special purpose fabric
313	Sheeting
314	Poplin & broadcloth
315	Print cloth
317	Twills
326	Sateen
410	Woven fabric
414	Other wool fabric
611	Woven fabric containing 85% or more by weight artificial staple
613	Sheeting
614	Poplin & broadcloth
615	Print cloth
617	Twills & sateen
618	Woven artificial filament fabric
619	Polyester filament fabric
620	Other synthetic filament fabric
621	Impression fabric
622	Glass fibre fabric
624	MMF fabric, woven, containing more than 15% but less than 36% wool
625	Poplin & broadcloth of staple/filament fibre combinations
626	Print cloth of staple/filament fibre combination
627	Sheeting of staple/filament fibre combinations
628	Twills & sateen of staple/filament fibre combinations
629	Other fabrics of staple/filament fibre combinations
810	Woven fabric, silk blend & non-cotton vegetable fibre

APPAREL:

Category **Description**
Table

237	Playsuits, sunsuits, etc
239	Babies' garments and clothing accessories
330	Handkerchiefs
331	Gloves and mittens
332	Hosiery
333	M&B suit-type coats
334	Other M&B coats
335	W&G coats
336	Dresses
338	M&B knit shirts
339	W&G knit shirts & blouses
340	M&B shirts, not knit
341	W&G shirts & blouses, not knit
342	Skirts
345	Sweaters
347	M&B trousers, breeches & shorts
348	W&G trousers, breeches & shorts
349	Brassieres & other body supporting garments
350	Robes, dressing gowns, etc.
351	Nightwear and pyjamas
352	Underwear
353	M&B down-filled coats
354	W&G down-filled coats
359	Other cotton apparel
431	Gloves and mittens
432	Hosiery
433	M&B suit-type coats
434	Other M&B coats
435	W&G coats
436	Dresses
438	Knit shirts & blouses
439	Babies' garments and clothing accessories
440	Shirts & blouses, not knit
442	Skirts
443	M&B suits
444	W&G suits
445	M&B sweaters
446	W&G sweaters
447	M&B trousers, breeches & shorts
448	W&G trousers, breeches & shorts
459	Other wool apparel
630	Handkerchiefs

Category	Description
631	Gloves and mittens
632	Hosiery
633	M&B suit-type coats
634	Other M&B coats
635	W&G coats
636	Dresses
638	M&B knit shirts
639	W&G knit shirts & blouses
640	M&B shirts, non knit
641	W&G shirts & blouses, not knit
642	Skirts
643	M&B suits
644	W&G suits
645	M&B sweaters
646	W&G sweaters
647	M&B trousers, breeches & shorts
648	W&G trousers, breeches & shorts
649	Brassieres & other body supporting garments
650	Robes, dressing gowns, etc.
651	Nightwear and pyjamas
652	Underwear
653	M&B down-filled coats
654	W&G down-filled coats
659	Other man-made fibre apparel
831	Gloves and mittens
832	Hosiery
833	M&B suit-type coats
834	Other M&B coats
835	W&G coats
836	Dresses
838	Knit shirts & blouses
839	Babies' garments and clothing accessories
840	Shirts & blouses, not knit
842	Skirts
843	M&B suits
844	W&G suits
845	Sweaters of non-cotton vegetable fibres
846	Sweaters, of silk blends
847	Trousers, breeches & shorts
850	Robes, dressing gowns, etc.
851	Nightwear and pyjamas
852	Underwear
858	Neckwear
859	Other apparel

MADE-UP AND MISCELLANEOUS TEXTILES:**Category Description**

Table

360	Pillowcases
361	Sheets no
362	Bedspreads and quilts
363	Terry and other pile towels
369	Other cotton manufactures
464	Blankets
465	Floor coverings
469	Other wool manufactures
665	Floor coverings
666	Other man-made fibre furnishings
669	Other man-made fibre manufactures
670	Flat goods, handbags, and luggage
863	Towels
870	Luggage
871	Flatgoods and handbags
899	Other silk and vegetable blend manufactures

13. Projections and Strategy Formulation

13.1. Introduction

The driving force behind Textile Vision 2005 is the objective of achieving sustainable growth through a balanced product and market mix and by creating an enabling environment for value addition. Implementation of the ATC (Agreement on Textiles and Clothing) in the year 2005 makes it essential to develop a structured and well thought-out road map for the post 2005 textile industry structure of Pakistan. This requires an in-depth analysis of the existing state of all the sub-sectors in the textile value chain, formulation of sectoral targets and detailed calculations on the future sectoral requirements including financing, marketing, technology and human resource. The success of such a master plan relies on the rationale behind the basic framework and the set of assumptions that act as a key driver. For this purpose, three different approaches have been used to achieve set targets, depending upon the extent of diversification, both in term of markets and products, and investments in various textile sub-sectors.

13.2. Projections 2005

The first task is to define a specific target of export value to be achieved in the next five years. Pakistani exporters face the toughest competition from their Asian counterparts. In order to gain the position of sustainable leading textile exporter from the region, Pakistan is envisioned to be the fifth largest exporter of textiles among its regional competition by the year 2005. If we look at the past export performances of the different countries, some of them have progressively strengthened their position in the region. China has emerged as the largest textile exporter. Ten major Asian textile exporters are China, Korea, Hong Kong, Turkey, India, Japan, Thailand, Pakistan, Indonesia and Bangladesh. Most of the literature available on textile and clothing suggests that the exports of the Asian region are expected to grow at a much faster rate than the rest of the world. Similarly projections based on historical growth trends also show high growth in exports over the next five years. Table 13.2.1 & Table 13.2.2, show the existing as well as the projected position of the Asian textile exporters.

Table 13.2.1: Existing Textile Exports From Asia

1998 (\$ Million)		
Rank	Country	Total
1	China	39,485
2	Korea	15,577
3	Hong Kong	10,980
4	Turkey	9,900
5	India	9,275
6	Japan	6,260
7	Thailand	4,965
8	Pakistan	4,897
9	Indonesia	4,862
10	Bangladesh	3,571

Table 13.2.2: Projected Textile Exports From Asia

2005 (\$ Million)		
Rank	Country	Total
1	China	55,641
2	India	21,533
3	Korea	16,733
4	Turkey	16,416
5	Pakistan	13,815
6	Hong Kong	10,611
7	Bangladesh	6,581
8	Thailand	5,083
9	Japan	4,949
10	Indonesia	4,893

China is ranked first with projected textiles exports of \$55 billion in year 2005, India second with exports of \$21 billion. Korea & Turkey are projected to hit \$16.7 billion & \$16.4 billions respectively. Hong Kong taken as an independent textile exporter is projected at \$10.6 billion. Therefore to achieve the vision Pakistan's textile exports must cross \$ 10.6 billion mark by the year 2005.

However doubling the exports in five years in a market characterised by very strong cost competition and rapidly changing consumer preferences is a gigantic task. To achieve this milestone it is imperative that the

garment sector acts as the engine of growth which in turn will create the demand pull for the upstream industry including spinning, weaving and processing. Mapping the growth of each sub sector along the five year time line while at the same time maintaining a balance between the demands of the up stream industry and investment requirements was a challenging job. Textile vision 2005 does not present one specific export scenario; there are three basic options with different sets of assumption combinations.

- a) **Low Road Scenario** represents a situation where only the historic export growth rates are maintained.
- b) **Do Able Scenario** that envisaged increase in unit price realisation and attempts to maintain the market share in each individual market.
- c) **High Road Scenario** is the most ambitious of all and also recommends diversification in into products that hold greatest potential and hitherto been neglected e.g. sports goods, specialised industrial garments, and women wear. Besides broadening of export product portfolio, it is also based on achieving market share of unexplored, non-traditional textile markets.

All of these scenarios have been compared and evaluated and the best scenario in the given economic circumstances has been recommended.

13.3. Product & Market Mix

The success of any of these scenarios especially the High Road, depends on certain conditions. The most critical of all, is that in order to maximise our export revenues Pakistani manufacturers and exporters will have to diversify their product base. It will not be possible to go for product development without exploring new markets or targeting different market segments within the same geographic market.

Sportswear and high performance gear is one of the growing product segments in the global apparel market. Women wear and especially the woven garment is another product area with largest share in global trade and high growth rates. It is recommended that our manufacturers and exporters gradually move into these product categories to optimise our export product and market mix. Important markets that are recommended specially for these products are Japan, Hong Kong and the United Arab Emirates. In order to venture into these products and meet the demands of high quality conscious markets it is necessary that the consumption of manmade fibres as well as diverse synthetic fabrics is promoted in the textile industry.

13.4. Low Road

Analysis of the existing textile exports product mix shows that a few product types have a high proportion in the textile exports. This phenomenon results in a very narrow export product base where all the resources are employed in the production of a few textile products. In doing so, the growth in textile exports has been lop-sided, some segments have experienced tremendous growth whereas some other product segments are unable to perform, even in a growing product market.

Babies wear woven is one such example. Exports of babies' wear have declined at an annual rate of 12% since 1993. From export earnings of \$27 million in 1993, exports of babies' wear have declined to \$ 16 million in 1997.

Table 13.4.1: Pakistan Exports of Babies Wear Woven (\$ 000)

1993	1994	1995	1996	1997
27,371	21,338	13,717	15,575	16,361

On the other hand exports in Knitted babies wear registered significant growth rates over the same period of time.

Table 13.4.2: Exports of Babies Wear Knit (\$ 000)

1993	1994	1995	1996	1997
2,201	3,401	2,671	2,956	3,233

The low road scenario targets to achieve an export growth in textiles, which is based on the historical performance of the sector in the world markets. Even though it takes the organic growth in the sector to arrive at projected export figures, the numbers in this scenario still suggest some investments and capacity enhancement to even maintain the historical growth rates.

In order to project export figures under this scenario trend analysis of exports from Pakistan in each category to five-digit SITC level has been carried out. Historic growth rates have been analysed in these groups for four years time period from 1993-1997. These historic growth rates in each subcategory are then used to regress export values in respective categories till the year 2005. Since five digit level involves a large number of categories in each sub product group they have been lumped together in four major product groups that are, Garments, Made Ups, Fabric & yarn. The projected exports in the low road scenario are given in

Table 13.4.3: Projected Exports in Low Road

Category	US\$ Million				
	1998 Exports	Low Road Exports	% age share 1998	% age share Low Road-2005	Growth Rates
Garments	1,224	1,413	25 %	19 %	2 %
Made-ups	1,099	1,739	22 %	24 %	7 %
Fabric	1,547	2,542	32 %	33 %	7 %
Yarn	1,027	1,746	21 %	24 %	8 %
Total	4,897	7,440			6 %

This volume of exports will take Pakistan to the projected position of 7th largest Asian textile exporter by the year 2005. However an inherent drawback of this scenario is that since historically there has been an inclination towards low value added or semi-manufactured textile goods from Pakistan, this effect is highlighted during the projected period. For example the share of garments in total textile exports went further down to 19% from 25% and that of yarn went up to 24% from 21% thereby

Likewise the scenario also doesn't attempt to correct heavy dependence of Pakistan on traditional markets. As a matter of fact while maintaining the historical growth patterns Pakistan loses out its share in major markets and also doesn't attempt to capture its share in the growing market size. This mainly happens because of the fact that the historical growth rates of Pakistani exports are lower than the growth rates of importing markets for the imports in these categories.

The low road scenario presents a situation where growth in textile exports is observed to be obtained automatically, but even sustaining existing market share and maintaining historical growth rates is not a simple task. Extrapolation of the export products on historical trends reveals certain product categories where exports eventually are projected to drop down to zero, by the year 2005. This highlights the areas where most emphasis should be laid to save Pakistan from loosing its market entirely.

13.4.1. Infrastructure Development & Capacity Building

In order to achieve US \$ 7.4 billion worth of textile exports as estimated in the low road scenario, there is a need to enhance capacity in different textile sub-sectors. Low road scenario envisaged a total Garment & Made ups export of \$ 3.15 billion. Apart from a small percentage of less than ten points, these exports are mainly cotton & blends based. This particular scenario completely overlooks the fact that globally there has been a notable shift from natural fibres to man made fibre based garments and tries to build solely on the strength of indigenous cotton production. In order to meet the requirement of the industry there has to be an estimated production of nearly 11 million cotton bales by the year 2005. It can be very clearly observed in the Table 13.4.1, based on historical growth rates there is no requirement to increase capacity in garment industry, whereas the up-stream industry shows great deal of capacity enhancement by the year 2005.

Table 13.4.1: Capacity Enhancement, Low Road Scenario

LOW ROAD SCENARIO	Total capacity required - 2005	Existing capacity	Ob. Rate	Capacity left in 2005	New capacity rqmt.
Stitching-Machines (No)	231,453	346,791	5%	254,923	0
Processing in Weaving (M sq m)	5,360	3,460	2%	3,065	2,295
Processing in Knitting (M kg)	217	105	2%	93	124
Knitting-Machines (No.)	4,324	7,800	10%	4,145	179
Shuttle-less looms	13,961	18,992	5%	13,961	0
Air Jet Looms	12,112	3,000	2%	2,658	9,455
Power & Auto Looms-Cotton (No)	106,394	200,200	10%	106,394	0
Auto/Power Looms-Synthetic	37,201	70,000	10%	37,201	0
Weaving-Water jet (No.)	1,812	400	10%	294	1,518
Spinning (Spindles)	8,424,378	7,184,000	2%	6,363,892	2,060,487
Polyester fiber (Tons)	508,000	441,501	0%	441,501	15,699

13.4.2. Investment Requirement

As this scenario is primarily build on the existing product mix there is no expansion opportunity in stitching or garments sector. It is estimated that if existing stitching capacity (Approximately: 350,000 machines) available in the country can be made to run more efficiently i.e. at 75% of the installed capacity, it can meet the requirements till the year 2005. Historically, exports of processed woven fabric have registered a marked growth rate indicating that there will be substantial requirement of processing capacity in the year 2005. Existing mix of fabric exports consists of 45% of unprocessed and 55% of processed fabric. However in order to sustain this growth rate substantial investment is required in the sector without which exports of fabric will once again tilt towards greige fabric.

Changing consumer preferences and rising demand of more complex/specialised fabrics in garments will necessitate manufacturing of high quality specialised woven fabrics in the coming years. Traditional power & auto looms because of inconsistent production performance are not geared to match the export demand. Future investments in the weaving industry have been estimated on installation of air-jet looms. The reason

for taking state of the art machines in fabric manufacturing was based on the assumption that future export requirements of fabric can only be met with high quality cloth production. No further investments have been estimated for the power looms in the weaving industry.

Table 13.4.1: Investments in Low Road

PKR Billion	Low Road
Stitching-Machines	0
Processing in Weaving	52
Processing in Knitting	2
Knitting-Machines	1
Air Jet Looms	49
Weaving-Water jet	6
Spinning	25
Polyester fiber	3
TOTAL	138

13.4.3. Revivable Units

The existing capacities have been considered equal to the working capacities. In case of spinning, about 1.8 million spindles are closed at present. According to an estimate, about 550,000 spindles of these are revivable. While calculating the existing capacity of spinning, these revivable spindles have been added to the working capacity.

Different obsolescence rates have been used for various machines to calculate investments over a period of five years. In this regard a simple exercise was conducted to determine the level of technology in the textile sub-sectors, variables like machine age and generation were analysed and average technology level of the sector was determined. For power looms and knitting machines, a factor of 10% has been used since these are quite old. Whereas for advance equipment such as that of spinning, air-jet and shuttleless weaving and processing, lower rates of obsolescence

13.5. Do-able Scenario

Textiles trade in the 21st century offer tremendous opportunities besides tough challenges. American market, the biggest destination for garment from Pakistan & most of the other textile exporters has shown unprecedented expansion in the last decade of the 20th century. MFA phase out is going to be a very an uphill task for the domestic textile industry, but it also offers unrestricted access to global markets at the same time. The Do-able scenario aims at gaining a better position in the global textile trade.

13.5.1. Assumptions

13.5.1.1. Maintaining Market Share:

The do able scenario is more ambitious than the low road. Instead of merely maintaining the historical growth rates it attempts to ***maintain the market share in each of the traditional markets*** for Pakistan. This implies that the growth rate of exports from Pakistan in each product group will match the import growth rate of that very product category in the respective market. The industry therefore will be able to face the global competition and achieve its due share in the increasing markets as well.

13.5.1.2. Unit Price Realisation:

Tough competition and lower level of product development has resulted in lower unit price realisation for Pakistani exports It is for this reason that majority of the products compete on prices in the international markets. Textile Vision-2005 proposes a number of steps for facilitating product & market development, which will result in a higher average unit price realisation. The scenario therefore assumes an ***increase of 7% in unit value realisation for garments & made ups, and an increase of 4% and 3% for the unit prices of fabric and yarn respectively***

Table 13.5.1: Unit Prices, Current and Future (2005). Do-able Scenario

	1998			2005		
	Quantity Kg	Value \$ Million	Unit price \$/kg	Quantity Kg	Value \$ Million	Unit price \$/kg
Garments	173	1,224	7.07	322	2,919	9.00
Made-ups	251	1,099	4.37	276	2,032	7.35
Fabric	522	1,547	2.97	690	2,677	3.9
Yarn	467	1,027	2.20	924	2,505	2.71
Total		4,944			10,564	

Stiff global competition, advance technologies and production in low cost economies have in the recent years contributed towards declining unit prices of textile products in each category. Growth rates in prices now are attributed to constant product development and innovation. Achieving the above mentioned growth rates is possible only through product diversification with new manufacturing materials and through diversifying into new markets.

13.5.2. Market Diversification:

The scenario also attempts to diversify the market mix of our textile exports. Japan & Hong Kong are two markets with high imports of textiles & textile products. Both of these markets constitute about 20% of the total world imports. Traditionally our garment exporters have been ignoring the two markets mainly because the market demand in these countries is associated with stringent quality standards. It is recommended that our exporters start exploring these markets. Initially ***only 1/2 percentage share of the Hong Kong & Japan markets is to be captured in five years***. Similarly, in recent years Middle Eastern countries have also become important markets, especially for garments and made-ups. The scenario also takes the fact into consideration and aims at achieving greater penetration in this market through products like:

- a. Babies wear both knit & woven
- b. T-shirts & Pullovers and
- c. Men's Clothing Knit

Keeping in view the growth of the Middle Eastern market, there is an opportunity to increase the exports to an annual growth rate of 3%. A detailed market and product mix of the Do able scenario is given in the annexure.

Table 13.5.1: Product Mix Do-able Scenario

Market Mix-2005 Do able Scenario US\$ Million				
	Garments	Made Ups	Fabric	Yarn
USA	1,666	786	416	152
European Union	547	684	383	511
Middle East	32	32	154	98
Other	380	424	1,113	341
Japan & Hong Kong	294	105	612	1,404
Total	2,919	2,032	2,677	2,505

13.5.2.1. Man Made Fabric

Globally there is a marked shift from natural fibre based textiles to man made fibre. According to "Annual Conference Report 1999" by International Textile Manufacturing Federation (ITMF) Manmade fibre constitutes nearly 60% of the total fibre mill consumption and the share is rapidly rising. In order to match the changing consumer demand Pakistani Textile manufacturers will have to align themselves with the trend. Realising the fact that cotton will remain the competitive strength for Pakistan, Textile Vision (Do able Scenario) envisages that *synthetic textiles will constitutes at least 30% of the woven garments exports & 10% of the Knit garments from Pakistan by the year 2005.*

13.5.3. Exports in the Scenario

It is estimated that if above mentioned strategy is followed, Pakistan will be able to achieve exports of US\$ 10.5 billion by the year 2005. This will strengthen its position in the Asian region by becoming the sixth largest exporting country of textile products. Table 13.5.1, shows the exports in low road and the doable scenario.

Table 13.5.1: Comparison of Low Road and Do-able

Exports US\$ Million					
Category	1998	Low Road Exports	Do-able Exports	% age share Low Road-2005	% age share Doable-2005
Garments	1,224	1,413	2,919	19 %	29%
Made-ups	1,099	1,739	2,032	24 %	20%
Fabric	1,547	2,542	2,677	33 %	26%
Yarn	1,027	1,746	2,605	24 %	25%
Total	4,897	7,440	10,121		
Rank in Asia	8th	7th	6 th		

The export product mix is also more balanced in the do-able scenario than the low road. Almost half of the total exports are comprised of high value added products including garments and made-ups. Likewise growth rates in the scenario are higher in case of value added product groups. The overall growth rate in value terms is twelve percent. For garments and made ups it is 14% and 9% respectively as against 2% and

7% in doable scenario. Whereas fabric and yarn exports have grown at 12% & 11% respectively. The growth rates are shown in Table 13.5.2.

Table 13.5.2: Growth Rates

Growth Rates P.a.		
Category	Low Road	Do-able
Garments	2%	14%
Made-ups	7%	9%
Fabric	7%	12%
Yarn	8%	11%
Total	6%	12%

13.5.4. Net Earnings

The garment sector in the scenario is assumed to have free access to inputs, in case the fabric cannot be locally produced due to technological and capacity constraint of the processing industry, it can be imported easily. Mainly the domestic up-stream industry is geared up to meet the fabric demand of the garments and made-ups sector.

There is a marked increase in the import of Dyes & chemicals because of a 12% annual growth rate in fabric production, out of which more than 50% is dyed or printed. Secondly an annual growth rate of 14% in garments and 9% in made ups exports, increases the demand for processed fabric. In addition to this only 20% fabric in finished form is imported in the scenario thus creating a substantial local capacity of fabric.

Table 13.5.1: Net Export Earnings, Current and Doable (2005)

Textile Imports US \$ Million		
	1998 Data	Do-Able
Dye & Chemical	82	379
Accessories (Buttons & Zips)	30	54
Woven Cotton Fabric	43	787
Woven MMF Fabric		655
Yarn	44	
Cotton	117	
Total Imports	315	1,876
Total Exports	4,897	10,121
Net Exports	4,582	8,246

It is estimated that yarn will not be imported, the domestic production of 13 million cotton bales, as assumed, will be converted by the local spinning industry. Even if there is a shortfall in the local production of cotton, the spinning industry will be able to import yarn at international prices and convert it.

13.5.5. Trading Partners

While proposing potential trading partners for garments and other textile products, three facts are considered. One, the USA is the single largest market especially for garments. Secondly MFA phase out is gradual and will only come into effect in 2005. Thirdly the expansion in American market is expected to maintain its forward thrust in the next five years, therefore its estimated that USA will still be the biggest destination for textile exports from Pakistan specially garments & made ups. However it's suggested that the Pakistani exporters start looking for other markets. Japan & Hong Kong are two such markets that offer good opportunities to textile exporters. It is expected that if Pakistani exporters can tap into these two markets, exports to Japan & Hong Kong can grow at an annual growth rate of 9%. The market mix is given in Table 13.5.1. The detailed product wise market mix is given in annexure.

Table 13.5.1: Market Mix Do-able Scenario

Countries	1998 Data	Do-able	Export Growth Rates
USA	1,264	3,020	14%
EU	915	2,125	13%
Middle East	255	316	4%
Japan & Hong Kong	1,449	2,415	9%
Others	1,014	2,258	13%
Total	4,897	10,121	12%

13.5.6. Capacity Requirement

In order to achieve US \$ 10.5 billion worth of textile exports, large-scale capacity enhancement across the textile value chain is required over a period of five years.

Garment and made-up stitching that contributes half of the export earnings in the doable scenario, needs comparatively lesser investment. One reason is that mid eighties and early nineties have seen a tremendous boom in this particular sector and large capacities were built anticipating the sustenance of the growth rate.

Table 13.5.1: Growth in Stitching

YEAR	MACHINES INSTALLED
1991 - 1992	62,400
1992 - 1993	61,599
1993 - 1994	44,948
1994 - 1995	28,402
1995 - 1996	18,513
1996 - 1997	25,408
1997 - 1998	47,435
1998 - 1999	37,709
1999 - 2000	20,377
TOTAL	346,791
Stitching Machines Imports (Machines imported prior to 1990 can be considered as scrapped)	

The Table 13.5.1 shows that the bulk of the stitching machinery was installed in nineties. According to estimates there is an additional need of 109,000 new stitching machines to match the demand of garments & made ups in the doable scenario.

Existing production & capacity requirement details of the other sectors are given in Table 13.5.2. It can be observed that the new capacity requirement for the weaving industry in the year 2005 is more than 10,000 air-jet looms, similarly around 1500 water jet looms are also estimated to be needed. The focus of investment in weaving industry is due to the increased fabric demand by the garment and made-ups sector. It is again considered that further investment in the power looms sector should be avoided in order to facilitate a shift from low value added to high value added exports.

Obsolescence rates in Knitting machines, power and auto looms is taken considerably high in order to provide garment manufacturers the fabric input that can achieve high unit growth and higher unit price realization.

Table 13.5.2: Capacity Enhancement

DO-ABLE SCENARIO	Total capacity required - 2005	Existing capacity	Ob. Rate	Capacity left in 2005	New capacity Requirement.
Stitching-Machines (No)	363,926	346,791	5%	254,923	109,003
Processing in Weaving (M sq. m)	6,017	3,460	2%	2,065	2,952
Processing in Knitting (M kg)	386	105	2%	93	293
Knitting-Machines (No.)	7,754	7,800	10%	4,145	3,609
Shuttle-less looms	16,734	18,992	2.5%	16,734	0
Air Jet Looms	11,200	3,000	2%	2,712	8,488
Power & Auto Looms-Cotton (No)	135,573	200,200	7.5%	135,573	0
Auto/Power Looms-Synthetic	37,201	70,000	10%	37,201	0
Weaving-Water jet (No.)	1,335	400	2.5%	335	1,000
Spinning (Spindles)	10,867,000	7,040,000	2%	6,363,892	4,504,

13.5.7. Investments in the Scenario

Spinning is the sector with largest investment requirement because projection estimates that by the year-2005 Pakistan will be producing 13 million bales of cotton. Though there are no restriction proposed on the export of raw cotton, value addition logic demands that the country must have enough spinning capacity to utilize domestic cotton production and add value to the exports. Furthermore, the weaving industry will have access to different yarns at international price levels. This will increase competition and result in product diversification even in yarn production. The increased pressure is likely to facilitate shift towards high count yarns.

Table 13.5.1: Investments in Doable

PKR Billion	Low Road	Do-able
Stitching-Machines	0	11
Processing in Weaving	52	67
Processing in Knitting	2	5
Knitting-Machines	1	14
Air Jet Looms	49	44
Weaving-Water jet	6	4
Spinning	25	87
Polyester fiber	3	
TOTAL	138	235

Growth rates of 14%, 9% & 12% in garment, made ups and fabric exports, respectively, also necessitate the building of processing capacity in the country. Both dyeing & printing of fabric would require a combined investment of Rs 72 Billion during next five years.

Thrust towards synthetic fiber is a major shift expected over the next five years. As a result it is estimated that the industry would need 600,000 tons of staple fibre and filament by the year 2005. There is already enough MMF capacity built in the country in recent years and the additional requirement would only be of 130,000 tons. An interesting aspect of the textile vision is access to raw materials at international prices. According to estimates international prices of synthetic fibres and filaments is expected to come down. Further investment in the sector is not required if the exporters are allowed access to the raw materials. In order to facilitate the shift towards the man-made fabric investment in 1000 new water jet looms is also proposed in the scenario.

13.6. High Road Scenario

The High Road scenario sets high targets for the domestic textile industry and enables it to achieve the textile vision. With the projected exports of \$ 13.8 Billion and an estimated investment requirement of PKR 333 billion, the scenario places Pakistan among the top five exporters from Asia. The scenario attempts to exploit the opportunities presented by the changing global trade environment by year-2005 & beyond to the maximum and demands the highest degree of effort to put the textile sector on the path to sustainable development and growth. The basic framework that provides the required impetus of growth in the scenario is based on the following.

13.6.1. Export Markets

Traditionally the textile sector of Pakistan has focussed on a couple of major export markets, including EU and the USA. Despite the fact that the countries in these markets are the largest importers of textile products, the Textile Vision stresses the need to develop non-traditional markets such as Hong Kong, Japan and the Middle Eastern countries, in case of value added products.

13.6.2. b) Product Mix

The narrow product base of textiles has impeded the growth in this sector. The projected growth in the high road scenario is obtained through optimisation of product mix and broadening of the textile export base. Non-traditional products such as women garments and sports wear are developed as priority sectors.

13.6.3. c) Unit Price Realisation

In almost all the textile products, Pakistan has the lowest unit price realisation. This factor has been taken into account in the textile vision 2005, which aims at improvement in unit price realisation across the textile value chain through quality enhancement.

13.6.4. d) Shift to Manmade Fibers

The textile sector of Pakistan has become cotton dependent, whereas the international trends show increase in mill consumption of artificial and synthetic fibers. The high road scenario aims at increased use of synthetic and artificial filaments and staple fibers.

Table 13.6.1: Projected Position of Pakistan High Road Scenario

Rank	2005 (\$ Million)	
	Country	Total
1	China	55,641
2	India	21,533
3	Korea	16,733
4	Turkey	16,416
5	Pakistan	13,815
6	Hong Kong	10,611
7	Bangladesh	6,581
8	Thailand	5,083
9	Japan	4,949
10	Indonesia	4,893

This scenario proposes that apparel & made ups shall be the engine of growth for textile industry in years to come. This sector will create the necessary pull that will trickle down towards up- stream sectors. The demand generated by the apparel and made-ups sector not only enhance the production capability in the up-stream industries but will also facilitate the shift of the sectors towards value addition, within their respective product group. The weaving industry is likely to produce high-density fabrics, required by the

apparel industry, similarly the spinning industry will shift towards high count yarns as a result of demand generated by the weaving industry.

Table 13.6.2: Sectoral Growth Rates

Category	Growth Rates P.a.		
	High Road	Do-able	Low Road
Garments	20%	14%	2%
Made-ups	21%	9%	7%
Fabric	12%	12%	7%
Yarn	10%	11%	8%
Total	16%	12%	6%

The scenario envisages an overall growth rate of 16 percent in textile exports per annum. The garments and made-ups sectors are expected to grow at around 20% and 21% per annum. These high growth rates are achievable only if manufacturers and exporters from Pakistan broaden their product and market mix. Pakistan has built a very strong base in knitwear during the last decade especially in Men's wear. Meanwhile Pakistan has been building strong capacities in woven specially woven fabrics. This strong base with additional processing capacity will position Pakistan to exploit the bigger woven market. Manufacturing and export of woven garments will also open up newer markets for Pakistan and reduce the risk involved in depending on a few markets.

Women garments is another product group not fully explored by Pakistani manufacturers. Women garments are more complex to stitch, secondly design and fabric changes are relatively more rapid. Provision of skilled labor force and building of marketing infrastructure shall enable Pakistani exporters to realize the higher unit prices offered for women garments.

Table 13.6.3: Unit Price Realisation in the High Road Scenario

	1998	2005-High Road
	Unit price \$/kg	Unit Price \$/kg
Garments	7.07	9
Made-ups	4.37	7.4
Fabric	2.97	4
Yarn	2.20	2.7

Policy measures & infrastructure development shall therefore enable Pakistan to exploit the potential presented by woven garments, sportswear and women clothing both knit & woven.

Very similar to the Doable scenario, unit price realization is expected to grow at **7% for garments & made ups, at 4% for fabric and the unit price for yarn is estimated to go up by 3%**. Annual dollar inflation of 2-3 % effectively means a small increase of less than 5% in value due to quality improvement and product diversification. Similarly to broaden market base **1/2 a percent market share in Japan & Hong Kong** shall be gained by garment exporters. **Exports to Middle East market in the scenario will grow at an annual growth rate of 3%.**

13.6.5. Export Product Mix

Based on the above mentioned assumptions the high road scenario projects the highest level of textile exports, with a balanced product and market portfolio by the year 2005.

Garments will have the highest share of 31% in the total textile exports of Pakistan by the year 2005, which is 12% higher than the share in low road and 3% more than the doable scenario. Made Ups would be the second largest component of exports with yarn & fabric on number three & four. This composition of textile exports is completely in line with the vision of increasing the share of value added exports from Pakistan.

Table 13.6.1: Comparative Exports in Different Scenarios

CATEGORY	1998	HIGH ROAD	DO-ABLE	LOW ROAD	HIGH ROAD % age share	DO-ABLE % age share	LOW ROAD % age share
Garments	1,224	4,309	2,919	1,413	31%	29%	19 %
Made-ups	1,099	4,063	2,020	1,739	29%	20%	24 %
Fabric	1,547	3,443	2,677	2,542	25%	33%	33 %
Yarn	1,027	2,000	2,505	1,746	14%	26%	24 %
Total	4,897	13,815	10,121	7,440			
Rank in Asia	8 th	5 th	6 th	7 th			

The detailed product mix of garments and made-up exports in the scenario are given in Table 13.6.2. It can be observed that through enhanced use of manmade fabrics, the exports of women apparel and sports gear are likely to increase significantly. Both of these products will have a decent share of 23% in the total exports of woven and knitted garments, which are estimated at US 4.3 billion by the year 2005. Another important aspect of sports wear exports is that the exports in the segment are developed from a very low base to its projected level in 2005, a total of US \$ 384 billion worth of exports in the segment is achieved at an aggressive growth rate of 167%, over a period of five years.

Table 13.6.2: Comparative Exports Product Mix Garments and Made-ups (US \$ million)

Category	1998 Data	Low Road	Proposed Do-able	High Road	Gr. Rates High Road
Men's Clothing Knitt	409	563	1,337	1,664	22%
Men's Clothing Woven	409	470	440	664	7%
Women Clothing Knit	73	66	144	207	16%
Women Clothing Woven	123	142	310	608	26%
Sports Wear Knit	19	-	26	37	10%
Sports wear Woven	0.4	0.24	12	384	167%
Babies Wear Knit	8	4	30	33	22%
Babies Wear Woven	21	-	36	36	8%
T Shirts & Pull Over	54	24	232	232	23%
Hosiery-Underwear	107	144	443	443	23%
Total Garments	1,224	1,413	2,919	4,309	20%
Knit Made ups	58	64	155	310	
Woven Made ups	1041	1,675	1,865	3,753	
Total Garments & Made Ups	2,323	3,152	4,939	8,373	

In 1998 Pakistan exported only US \$ 19 million worth of Knit sportswear, down from \$22 million in 1997, and another \$.4 million of woven sports garments. Achieving 10% & 167% growth rates receptively is not a very unrealistic assumption. Especially when our exports to America are only \$ 11 million combined.

Whereas America holds 14% of the global Knit sports wear with annual import of \$278 million and 35% of global woven market of sports wear with an annual import of \$1.2 billion. Comparison shows that while Pakistan will not lose its share in men's clothing but will be able to broaden its product base. Low road scenario built on historic trends slowly gives out in Men's clothing whereas presence in sportswear & babies wear just vanishes with growth rates in negatives. Extra effort in women wear has resulted in 16% annual growth rate in knit women garments and a higher growth rate of 26% in woven women clothing. Similarly babies wear another attractive garment shall also contribute to overall 20% growth rate in textiles.

Table 13.6.3: Comparative Product Growth Rates

Category:	Growth Rates	High Road	Do Able	Low Road
Men's Clothing Knit		22%	18%	5%
Men's Clothing Woven		7%	1%	2%
Women Clothing Knit		16%	10%	-1%
Women Clothing Woven		26%	14%	2%
Sports Wear Knit		10%	5%	
Sports wear Woven		167%	63%	-7%
Babies Wear Knit		22%	21%	-9%
Babies Wear Woven		8%	8%	
T Shirts & Pull Over		23%	23%	-11%
Hosiery-Underwear/Night Wear		23%	23%	4%
Total Garments		20%	14%	2%

13.6.6. Market Mix

Traditionally exporters from Pakistan have been targeting only a limited number of markets. Garments exporters have been exporting primarily to the USA and to a few markets in the European Union. In European Union Germany, France and United Kingdom are the only markets being served by Pakistani exporters. Development of regional trade pacts and preferential trade status that these regional member states enjoy, expose Pakistani exporters to serious risks in exporting to these particular markets. Textile Vision-2005 envisages a diversification in current market mix. As our manufacturing base will move towards Man made fabric and women and sportswear gets an increased share in our garments product mix, it will be easier to target new markets for all textiles products. Japan, Hong Kong and the Middle East are the markets that are proposed to be explored in the high road scenario. A detailed product mix and market mix is attached in the annexure.

Table 13.6.1: Market Mix High Road Scenario

Market Mix-2005 High Road Scenario US\$ Million				
	Garments	Made Ups	Fabric	Yarn
USA	2,305	1,572	534	121
European Union	800	1,368	492	408
Middle East	45	267	198	78
Other	865	621	1,431	272
Japan & Hong Kong	294	235	787	1,121
Total	4,309	4,063	3,443	2,000

13.6.7. Investment and Infrastructure:

The scenario is designed in a way that garments and made ups drive the capacity building and investment in the rest of the sectors. Since there is a very high growth rate of 20% p.a. in garments exports, downstream sectors will have to meet the rapid demand of processing, fabric, yarn & cotton,

Capacity enhancement in the stitching sector requires much less degree of investment and can be achieved at a very fast pace, but it would not be possible for processing and fabric sectors to match the increased demand in a short period. Two options are built in the scenario so that neither are the financial resources strained to limits nor the garment export growth is compromised. Firstly investment in new stitching machinery is spread over three years time with 30% machinery installed in the first year & 35% each in the next two years. Secondly it is recommended that no restrictions be imposed on any raw material imports neither on fabric nor yarn nor cotton. It is expected that the knitting would be able to build on the capacity and by the year 2005 there shall be no need to import Knit processed or greige cotton fabric. Woven fabric imports would still be major import expenditure even by the year 2005. But these imports are not because the demand of garment exports could not be met but mainly because of the fact that there is a free movement of goods in both directions and woven fabric both in processed and greige form will continue to be exported independently. Small quantities of woven man made fabric shall also be imported and imports will grow as the shift towards manmade fabric is fully realized.

Table 13.6.1: Sectoral Capacity Enhancement in the High Road

	Total capacity required - 2005	Current capacity	Ob. Rate	Capacity left in 2005	New capacity requirement	Investment (Rs Billion)
Stitching-Machines (No)	642,992	346,791	5%	254,923	388,068	39
Processing in Weaving (M sq m)	5,807	3,460	2%	3,065	2,742	62
Processing in Knitting (M kg)	458	105	2%	93	365	7
Knitting-Machines (No.)	11,472	7,800	10%	4,145	7,327	29
Shuttle-less looms	13,961	18992	5%	13,961	0	0
Air Jet Looms	10,401	3000	2%	2,658	7,744	40
Power & Auto Looms For Cotton Fabric	106,394	200,200	10%	106,394	0	0
Auto/Power Looms-Synthetic	37,201	70,000	10%	37,201	0	0
Weaving-Water jet (No.)	10,844	400	2%	354	10,489	40
Spinning (Spindles)	10,690,776	7,184,000	2%	6,363,892	4,326,884	87
Polyester fiber (Tons)	655,000	441,501	0%	441,501	213,499	29
TOTAL						333

Complete yearly break down of High Road investment is given Table 13.6.2. Spinning would require the highest amount of investment because cotton utilization in the scenario is around 13Million bales and another 357 kg of spinning is required for synthetic staple fibre used as a result of shift towards blended fabrics.

High use of synthetics is again reflected in an investment allocation of Rs 39 billion in water jet looms. Investment in processing for woven fabric is around PKR 62.5 billion, due to the fact that maximum value addition is possible through conversion of indigenous fabric into garments and made-ups, high quality processing, although capital intensive but still viable when a great deal of foreign exchange is earned through enhanced unit price realisation of garments and made-ups.

Table 13.6.2: Yearly Break-up of Investments in High Road Scenario

Investment Mn	2001	2002	2003	2004	2005	Total
Stitching	10,723	12,204	12,204	1,837	1,837	38,807
Knit Processing	663	995	1,658	1,658	1,658	6,634
Woven Processing	6,244	9,366	15,610	15,610	15,610	62,439
Knitting	2,930	4,395	7,325	7,325	7,325	29,301
Weaving Air Jet Looms	4,032	6,049	10,081	10,081	10,081	40,324
Weaving Water Jet	3,955	5,933	9,888	9,888	9,888	39,553
Spinning	8,652	12,978	21,630	21,630	21,630	86,520
Polyester Fiber	2,942	4,413	7,356	7,356	7,356	29,423
Total Investment Rs Mn	40,143	56,333	85,753	75,386	75,386	333,000
Total Investment US\$ Mn	743	1,043	1,588	1,396	1,396	6,167

Although to achieve the investment level of PKR 333 billion (US \$ 6 billion), over a period of five years in the textile sectors is a gigantic task but the returns in terms of export earnings are also tremendous, over the same period. The total exports increase by almost US \$ 9 billion in five years, the stream of future exports generated will be much higher than US \$ 9 billion. The scenario suggests high imports in the early years but in the year 2005 the net export earning also increase to US \$ 10 billion, which currently are at US \$ 4.5 billion. The impact of high imports as a result of easy access to inputs, can be understood more easily through comparing the projected net exports figure in the year 2001, with the existing net exports. The total exports are projected in the year to be as high as US \$ 8.2 billion but net export earnings are only US \$ 5.2 billion, showing an increase of US \$ 700 million from the existing level.

Table 13.6.3: Net Earnings in the High Road Scenario

	2,001	2,002	2,003	2,004	2,005
Dyes & Chemicals Imports	204	233	284	335	386
Button & Zipper Imports	49	65	82	87	92
Knit Cotton Fabric Imports	726	780	667	288	0
Woven Cotton Fabric Imports	1,700	1,995	2,281	2,309	2,346
Woven MMF Fabric Imports	319	444	602	721	845
Total Imports	2,998	3,517	3,915	3,740	3,668
Total Exports	8,244	9,554	11,284	12,350	13,820
Net Exports	5,246	6,037	7,369	8,611	10,052

Since the high road scenario aims at transforming the textile sector from low technology base and taking it into a higher technological orbit, this involves heavy investments in state of the art equipment across the textile value chain. The shift towards value addition has to be supported through capital investments in imported equipment. The estimated total foreign exchange component is around US \$ 5,111 million, which is 83% of the total proposed investment layout in the high road scenario. The local (rupee) component is only US \$ 1,041 million, which is 17% of the total. The split of foreign and local component is estimated by calculating the capital investment requirements in each sub-sector, a large portion of local component includes investment in land, building and local machinery. While estimating the quantum of investment, every possible effort was made to give preference to local machinery, without compromising on quality.

Table 13.6.4: Local and Foreign Component of Investment

Investment Requirement Foreign & Local Component						
(USD million)		2001	2002	2003	2004	2005
SPINNING	F-C	144	216	360	360	360
	L-C	16	24	40	40	40
WEAVING (Air Jet)	F-C	63	95	158	158	158
	L-C	11	17	28	28	28
WEAVING (Water Jet)	F-C	62	93	156	156	156
	L-C	11	16	27	27	27
STITCHING	F-C	177	202	202	30	30
	L-C	21	24	24	4	4
KNITTING	F-C	40	60	100	100	100
	L-C	14	21	35	35	35
PROCESSING (Knit Fabric)	F-C	10	15	25	25	25
	L-C	2	4	6	6	6
PROCESSING (Woven Fabric)	F-C	85	127	217	217	217
	L-C	27	41	71	71	71
Man-made Fiber	F-C	41	61	102	102	102
	L-C	14	20	34	34	34
Total US \$ Mln	F-C	623	870	1,320	1,149	1,149
	L-C	117	168	266	245	245

13.6.8. Financial Sector Obligations

The actual capital investments have been calculated by amortising the credit over a period of seven years. Yearly investment requirement to be fulfilled by the financial institutions goes substantially down when equity participation is taken into consideration, from private sector at 60:40 debt equity ratio. For example the investment requirement of Rs 40 billion in the first year actually translates into Rs 24 billions credit burden on the financing institutions. The credit required by the Textile sector will only be 20% of the total credit available, this in fact is not much of an ask from a sector with 65% share in exports earning, 35% in employment and 8% in total GDP of the country (1998 figures).

Table 13.6.1: Credit Requirement in High Road

	2001	2002	2003	2004	2005
Total Investment Requirement (Rs billion)	40	56	86	75	75
Funds Required from Banks @ 60/40 debt equity	24	34	52	45	45
Actual Requirement after Repayment	24	28	37	14	4
Estimated Expansion of Credit (Rs. Billion)	118	133	151	171	193
Actual Utilization by Textile Sector	20%	21%	25%	8%	2%
Funds requirement for Stitching (Rs billion)	6.60	6.00	5.16	0.37	0.11
Funds requirement for Processing (Rs billion)	3.60	4.50	6.88	2.99	0.85

However in case of financial and credit constraints, stitching & processing should be the first area where investments is needed on priority basis. These two sectors will contribute \$10 billion in shape of exports of garments and fabric and require only Rs 11.2 billion in the first year.

From the second year onwards, repayments will start coming in and the net credit requirement will further go down. In final year that is 2005 there will be a new credit requirement of only Rs 4billion which will be only 2% of the total available credit.

Textile Vision envisions that its high time that Pakistan textile industry prepares itself to meet the challenges and grab the opportunities presented by approaching free trade environment. Garments that will serve as the engine of this growth require comparatively little commissioning time. Exports of garments & made ups therefore are estimated to reach \$4.3 billion in 2001 eventually reaching \$8.2 billion in year 2005.

13.6.9. Employment Creation

A few textile sub-sectors including garment stitching are highly labour intensive. This level of capacity building will generate employment on a large scale. Currently the sector employs roughly 1.3 million people in different sectors. Stitching is the area where employment is created with minimum cost per employment created. The sector holds the potential for employing the highest number of people in five years. High road scenario estimates that stitching sector alone will employ 800,000 people. Spinning sector will employ the second highest number of people after stitching.

Table 13.6.1: Employment Creation

	Current (1998)	2001	2002	2003	2004	2005	Total New Employment
Stitching	734,805	227,214	258,595	258,595	38,931	38,931	822,267
Processing	61,206	5,629	8,443	14,089	14,089	14,089	56,340
Knitting	47,221	1,353	2,331	4,463	5,126	5,889	19,161
Weaving	294,213	1,548	2,323	3,871	3,871	3,871	15,484
Spinning	201,152	12,360	18,540	30,900	30,900	30,900	123,600
Total Employment	1,338,597	248,105	290,232	311,918	92,918	93,680	1,036,853

13.7. Quota Availability for the Projected Exports

Under various scenarios of export growth projections for textile vision 2005, different growth rates have been applied for textile products to achieve the desired level of exports. Almost half of the Pakistan textile exports are directed towards the quota countries, i.e. USA and EU, etc. The below mentioned tables provide the details about the actual quota availability and requirement of Pakistan to achieve the growth rates under the two scenarios, Doable and High Road.

13.7.1. Doable Scenario

It can be observed in the *Table 13.7.1 : Quota Requirements- Doable Scenario*, that in this scenario, the total quota requirement for the mens' wear, women wear, and the made-up is 20 million dozens, 4 million dozens and 117 million kgs. respectively for the USA market. Whereas the available quota for the above mentioned categories are 19.5 million dozens, 6 million dozens, and 83.15 million kgs. In case of the EU markets the quota requirements is almost equal to the projected exports. The quota constraint in both the markets translates into a total loss of US \$ 255 million against the projected exports of US \$ 10.56 billion, which is 2.4% of the total projected figure.

Table 13.7.1 : Quota Requirements- Doable Scenario

Doable Scenario				
USA				
	Export Quantities	Quota Availability	Quota Limitation	Expected Loss (Mn. US \$)
Mens' Wear (Million Dozens)	20	19.5	-0.5	-5.28
Women's Wear (Million Dozens)	4	6	2.5	-
Made Ups (Million Kgs)	117	83.15	-33.85	-248.7975
EU				
	Export Quantities	Quota Availability	Quota Limitation	Expected Loss (Mn. US \$)
Mens' Wear (Million Dozens)	7	24.3	15.8	
Women's Wear (Million Dozens)	5			
Made Ups (Million Kgs)	81	80.9	-0.1	-0.735

Table 13.7.2: Quota Requirements- High Road Scenario

High Road Scenario				
USA				
	Export Quantities	Quota Availability	Quota Limitation	Expected Loss (Mn. US Dollar)
Mens' Wear (Million Dozens)	28	19.5	-8.5	-89.76
Women's Wear (Million Dozens)	6	6	0	-
Made Ups (Million Kgs)	233	83.15	-149.85	-1101.3975
EU				
	Export Quantities	Quota Availability	Quota Limitation	Expected Loss (Mn. US Dollar)
Mens' Wear (Million Dozens)	8	24.3	11.14	
Women's Wear (Million Dozens)	7			
Made Ups (Million Kgs)	162	80.9	-81.1	-596.085

The figures in the two tables above might not add-up to 100%, due to rounding off.

13.7.2. High Road Scenario

In case of high road scenario as mentioned in *Table 13.7.2: Quota Requirements- High Road Scenario*, the loss in projected export earnings due to quota constraints is US \$ 1.2 billion in the US market and US \$ 596 million in the EU market. The total loss in exports is to the tune of US \$ 1.79 billion, which is 13% of the total dollar value of exports under the scenario.

13.7.3. Actual Quota Issue

Under the Doable scenario the excess production amounting to US \$ 244 million falls within the manageable limits. The loss in exports can be compensated by directing the excess towards the non-quota countries. The non-quota markets are large enough to absorb the given increase in volumes. These markets have traditionally remained unexplored due to easy access of exporters in the quota countries. A joint effort on the part of Government and the exporters can enable Pakistan to penetrate into the non-quota markets.

In the High Road scenario the total increase in projected exports is US \$ 1.79 billion. Considering the size of non-quota markets the excess under this scenario cannot be diverted towards these markets. Only 14% of the projected excess can be assumed to be directed towards the non-quota countries, which is the same as in the case of Doable scenario. The remaining 86%, around US \$ 1.5 billion, excess will not be exportable under this scenario due to quota constraints in the US and EU markets.

13.7.4. How to Resolve the Issue

- a. The textile policy is based on the premise that the year 2005 is the deadline of MFA phase out and all the quotas will cease to exist. The vision statement clearly depicts that we want to have a textile sector in Pakistan, which is:

“Fully equipped to exploit the opportunities created by MFA phase out”

The excess of exports (US \$ 1.5 billion) as a result of unavailability of quotas in the high road scenario is the opportunity cost that the industry will have to bear. It is important to have this excess capacity available because the MFA phase out will result in opening-up of the quota markets. Unless the industry has sufficient capacity already in place, it will lose the chance to capitalise on this opportunity, and other competing countries will take up this market.

- b. The quotas are allocated to each country on the basis of bilateral negotiations. Adjustments in quotas are made on the account of past performance and the production capacities of the exporting countries. In this regard Ministry of Commerce is recommended to build a strong case and negotiate the readjustment of quotas with both the USA and EU.

Pakistan's Projected Apparel Product & Market Mix in High Road Scenario-2005 US\$ Millions

Women Clothing Woven	1997	2005	Annual G.Rate
USA	68.38	254.22	21%
EU	52.86	303.76	28%
Middle East	5.06	25.26	26%
Others	9.57	24.37	14%
Japan+HK	0.00	0.59	8%
Total	135.86	608.19	24%

Babieswear woven	1997	2005	Annual G.Rate
USA	2.84	6.32	12%
EU	10.96	18.35	8%
Middle East	0.46	0.87	9%
Others	2.10	3.29	7%
Japan+HK	0.00	7.66	109%
Total	16.36	36.49	12%

Sports-wear woven	1997	2005	Annual G.Rate
USA	0.15	0.00	0%
EU	0.18	0.29	7%
Middle East	0.00	0.00	0%
Others	0.07	381.23	240%
Japan+HK	0.00	2.82	40%
Total	0.41	384.33	166%

Mens Clothing Woven	1997	2005	Annual G.Rate
USA	182.41	488.42	15%
EU	62.39	86.01	5%
Middle East	8.28	5.00	0%
Others	29.44	36.33	3%
Japan+HK	0.00	48.37	691%
Total	282.51	664.13	13%

Hoisery	1997	2005	Annual G.Rate
USA	39.39	55.40	5%
EU	63.91	89.90	5%
Middle East	0.00	0.00	
Others	16.21	323.80	53%
Japan+HK	0.00	0.00	
Total	119.52	443.21	21%

Total Knit Garment Exports \$ mln	2,173	50%
Total Woven Garment Exports \$ mln	1,693	39%
Hoisery	443	
Total Apparel Exports-2005	4,309	

Women Clothing Knit	1997	2005	Annual G.Rate
USA	26.86	123.95	24%
EU	20.30	38.59	10%
Middle East	0.00	0.00	
Others	4.46	5.99	4%
Japan+HK	0.00	38.54	551%
Total	51.62	207.07	22%

Babies Wear Knit	1997	2005	Annual G.Rate
USA	0.57	3.11	28%
EU	1.92	5.37	16%
Middle East	0.32	0.87	16%
Others	0.43	0.37	
Japan+HK	0.00	23.09	330%
Total	3.23	32.81	39%

Sports-wear Knit	1997	2005	Annual G.Rate
USA	11.37	0.83	-31%
EU	9.49	28.00	17%
Middle East	0.00	0.00	
Others	1.28	0.00	
Japan+HK	0.00	7.83	112%
Total	22.13	36.66	7%

Men Clothing Knit	1997	2005	Annual G.Rate
USA	239.62	1326.48	28%
EU	51.62	236.05	24%
Middle East	4.94	9.76	10%
Others	17.81	25.69	5%
Japan+HK	0.00	66.21	946%
Total	314.00	1664.19	27%

T-Shirts & Pullovers	1997	2005	Annual G.Rate
USA	31.57	92.76	17%
EU	15.58	32.34	11%
Middle East	1.98	3.70	9%
Others	6.26	4.13	-6%
Japan+HK	0.00	99.38	1420%
Total	55.39	232.30	23%

Woven Makeup	1997	2005	CAGR
USA	282.55	722.51	14%
EU	304.99	629.27	11%
Middle East	65.18	65.18	0%
Others	238.44	361.00	6%
Japan+HK	7.09	97.53	45%
Total	898.25	1,875.49	11%

Knit Makeup	1997	2005	CAGR
USA	18.86	63.62	19%
EU	19.35	54.72	16%
Middle East	6.24	11.69	9%
Others	13.15	17.21	4%
Japan+HK	1.04	7.90	34%
Total	58.64	155.13	15%

Fabric	1997	2005	CAGR
USA	200.65	534.28	15%
EU	179.02	492.08	16%
Middle East	86.80	197.74	12%
Others	570.03	1431.13	14%
Japan+HK	257.84	786.77	17%
Total	1,294.33	3,442.00	15%

Yarn	1997	2005	CAGR
USA	69.06	129.04	9%
EU	37.88	435.05	42%
Middle East	47.42	82.99	8%
Others	519.45	290.11	-8%
Japan+HK	682.71	1194.76	8%
Total	1,356.52	2,131.95	7%

Annexure II

Product and Market Mix for Garments Doable Scenario.

Proposed Product & Market Mix of Garment Exports Do-Able- (US \$ Mln)							
WOMEN CLOTHING WOVEN	1997	2005	CAGR	Women Clothing Knit	1997	2005	CAGR
USA	68.38	151.59	12%	USA	26.86	67.07	14%
EU	52.86	130.94	14%	EU	20.30	33.27	7%
Middle East	5.06	12.83	14%	Middle Eat	-	-	
Others	9.57	14.71	6%	Others	4.46	4.83	1%
Japan+HK	-	-		Japan+HK	-	38.54	551%
Total	135.86	310.08	13%	Total	51.62	143.71	16%
Babieswear woven	1997	2005	CAGR	Babies Wear Knit	1997	2005	CAGR
USA	2.84	6.32	12%	USA	0.57	1.66	17%
EU	10.96	18.35	8%	EU	1.92	3.88	11%
Middle East	0.46	0.87	9%	Middle East	0.32	0.69	12%
Others	2.10	3.29	7%	Others	0.43	0.31	-5%
Japan+HK	-	7.66	109%	Japan+HK	-	23.09	330%
Total	16.36	36.49	12%	Total	3.23	29.62	37%
Sportswear woven	1997	2005	CAGR	Sportswear Knit	1997	2005	CAGR
USA	0.15	-		USA	11.37	0.64	0%
EU	0.18	0.22	3%	EU	9.49	17.63	9%
Middle East	-	-	0%	Middle East	-	-	
Others	0.07	8.80	99%	Others	1.28	-	0%
Japan+HK	-	2.82	40%	Japan+HK	-	7.83	
Total	0.41	11.83	62%	Total	22.13	26.11	2%
Mensclothing woven	1997	2005	CAGR	Mens clothing Knit	1997	2005	CAGR
USA	182.41	284.13	7%	USA	239.62	1,052.90	24%
EU	62.39	70.04	2%	EU	51.62	189.56	20%
Middle East	8.28	5.00	0%	Middle East	4.94	9.25	9%
Others	29.44	32.27	1%	Others	17.81	19.21	1%
Japan+HK	-	48.37	691%	Japan+HK	-	66.21	

Total	282.51	439.82	7%
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T-shirts & Pullovers	1997	2005	CAGR
USA	31.57	92.76	17%
EU	15.58	32.34	11%
Middle East	1.98	3.70	9%
Others	6.26	4.13	0%
Japan+HK	-	99.37	1420%
Total	55.39	232.30	23%
Total Apparel Exports \$ Mn	2,919		

Total	314.00	1,337.13	23%
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Hoisery	1997	2005	CAGR
USA	39.39	39.00	0%
EU	63.91	50.95	-3%
Middle East	-	-	
Others	16.21	262.00	49%
Japan+HK	-	-	
Total	119.52	351.95	17%

14. Recommendations to Develop Textile Sector

14.1. Critical Country Perceptions

Since a sectoral strategic development plan has to operate within the broad environmental canvas of the country or the region, there are many extraneous factors that have a profound influence on the operational aspects of the strategy, sometimes in an absolutely critical way. The proposed textile vision 2005 assumes that none of these factors will play a hostile role as the implementation phase unfolds. An enabling backdrop is a vital pre-requisite to the viability of this strategy. The main factors that will effect the outcome are listed as under:-

14.2. Supportive External Factors

The role of International bilateral and multilateral donors is critical in developing perceptions about the economic health of a country, particularly less developed countries (LDCs). These external factors prove to be very supportive provided the donors have a positive opinion and vice versa.

14.3. Business Environment

Another crucial factor in stimulating foreign as well as domestic investment is the investment policy of a country. Investor friendly business environment refers to the set of incentives and the comfort level in business operations offered to investors.

14.4. Country Image

Pakistan is globally perceived to be a low quality producer. Even if an 'A' grade product is manufactured, according to international quality standards, it still is not able to fetch a better price in the international markets. A negative country image discourages the switch from low value added products to higher value added products.

14.5. Procedural and Regulatory Barriers

Pakistan's economy is considered to be amongst the highly regulated economies in the world. An entrepreneur has to deal with a wide range of different Government agencies to run an enterprise. Similarly cumbersome procedures of the Government departments discourages the use of various packages offered to facilitate the business, specially exporters. Case in point are the No Duty No Drawback (NDND) scheme and other programmes related to temporary imports.

14.6. Political Stability

Last but not the least is the political stability in the country. Pakistan is considered to be a high-risk country due to political instability. Frequent changes at the top result in reversal or termination of policy measures. Investment and Capital accumulation can only take place through guaranteeing the continuity of different initiatives and policies undertaken by a regime.

14.7. General Interventions

Textile is a mega-sector with a long value chain. Each of the sub sectors in this value chain has very specific impediments to its optimum development and growth against which Textile Vision has suggested detailed workable recommendations. There are also certain limitations that affect the Textile sector on the whole. These problems are generic and concern each fob of the value chain. Therefore common interventions that will impact all the sub-sectors across the textile industry are listed and discussed together in the General Intervention package. These are: -

14.7.1. Establishment of a Textile Board

It would not be incorrect to say that textiles is a mega sector as compared to other industrial sectors of Pakistan. The textile value chain starting from cotton and other fibers up through garments and made-ups is probably the longest

when compared to other industries. Through out the decades of 1970's, 1980's and 1990's, different regimes in the country tried to mobilise resources for the development of this sector. International experts and consultants were engaged to analyse the textile sector, identify its problems and impediments and suggest policy interventions and measures for sustainable development of the sector. These consultants submitted their reports and recommendations, which never really got implemented. Lack of coordination among various Government agencies and departments and the industry stakeholders had its toll on the implementation of these strategies.

Currently the Textile Commissioner's Organisation (TCO) has the mandate to develop textile industry in the country. The TCO is a Public Sector body working under the ambit of the Ministry of Industries and Production. In its early years of establishment, it contributed significantly to the cause of textile sector growth but without any regulatory authority it seems to have lost its effectiveness. Its role has been limited to that of an advisory body, with the additional role of coordination among different Government Ministries on the subject.

14.7.1.1. The Textile Board

This phenomenon stresses the need for an exclusive regulatory body with the responsibility to cater to the different needs of a dynamic textile sector. It is proposed that a Textile Board of Pakistan be established. The Board should have representation from public as well as private sector. A professional management team, headed by an experienced private sector person can be appointed to manage the Board. The objective of the board would be to continuously monitor the existing state of textile industry in the country and take measures to remove impediments in its growth. The status of the Board should be autonomous.

14.7.1.2. Functions of the Board

Broadly the role of the Textile Board would be to provide regulatory, technological, marketing and human resource support to the textile industry of Pakistan.

14.7.1.2.1. Implementation and monitoring of the textile policy

The foremost objective of the Board would be to ensure the implementation of the textile policy. It would also be the responsibility of the Board to monitor the implementation of the policy, evaluate performance and take corrective action.

14.7.1.2.2. Monitoring of textile industry performance

Currently there is no system in the country to monitor the performance of the textile sector on a regular basis. Such actions are initiated as need arises. The Textile Board with the support of its specialised wings, would be in a position to analyse the performance of the industry and set annual production targets. It would also evaluate the export performance of the sector.

14.7.1.2.3. Technology Up-gradation need analysis

Competitive advantage is the key to success in the textile business. Considering the dynamic nature and diversity of technology in various sub-sectors of textiles, there is strong need to create awareness among the industrialist about technological advancements and process improvements. The Textile Board would play this role by conducting up-gradation need analysis across the textile value chain. At a large scale the Board would also facilitate the transfer of technology in the country.

14.7.1.2.4. Bridge the Co-ordination Gap

During the course of formulating the Textile Vision 2005, various brainstorming sessions were conducted with the industrialist and exporters. It was strange to find out a large majority of the entrepreneurs were not even aware of different incentive offered by the Government. This was even the case with some of the representative industry associations. The Government regulations/SROs were also found to be difficult to understand. It would be the role of the Board to disseminate information on different Government regulations among the industrialists. The Board would also provide modification plans in the regulatory structure to achieve its mandate of textile sector development. An important feature in this regard will be to monitor the category wise quota performance and ensure transparency in textile quota allocations. The Board would also try to streamline the role and activities of the industry and trade associations to further strengthen them.

14.7.1.2.5. Effective Marketing of textile products

Marketing has been a major issue for all the exporting industries in the country. EPB's effort in this regard are diluted due to its responsibility to promote exports from all the sectors. Furthermore there is a major perception problem regarding the image of the country, the 'Made in Pakistan' label on an 'A' grade textile product results in low price realisation. Marketing of textile products will be the role of Textile Board, it will explore new markets for Pakistani products, provide marketing support to the industry in introducing new products. It will also co-ordinate with the EPB in its activities and ensure the representation of the textile industry in international events. In order to improve image of Pakistan's textile products the Board would have to rely on marketing and advertising through international electronic and print media.

14.7.1.2.6. Industry Training Need Analysis

A number of training institutes are currently present, which impart training on different textiles subjects such as spinning, processing, etc. These institutions are in a dire need of restructuring to equip them with modern training facilities and update the syllabus. This is vital to the transformation of the textile sector to exploit the opportunities arising out of MFA phase out. The textile board will conduct a training need analysis of the textile sector to meet its future requirements and will carry out the task of restructuring of institutions accordingly. If need be, new institutions will also be setup by the board.

14.7.1.2.7. Textile Quality Standards

Quality of textile products is crucial to improve the image of Pakistan textile industry internationally, which currently is the perceived to be the lowest. The quality standards of a wide range of textile products are non-existent. The textile board will have the task to formulate product standards for textiles and implement them. Similarly the MFA phase out and lowering of tariff barriers will start a new phase of non-tariff barriers for the exporters of developing countries, these include quality system compliance with ISO, standards of engagement, child labour and environment standards. This will be another important function of the board to facilitate the industry gear itself and compete globally.

14.7.1.2.8. Textile Industry Statistics

Accurate and detailed statistics provide sound foundation to a realistic analysis. Under the existing situation there is no system of collecting statistics on a regular basis and, across the textile sector value chain. The statistics on the formal sector only does not give a complete picture. One of the functions of the textile board will be to gather statistics not only on the formal sector but also on the informal textile sector including the power looms, small dyeing units, stitching units and other process vendors. The board will serve as a hub of information to the textile industry for international trade statistics (import exports) which form the basis of export marketing.

14.7.1.2.9. Business Advisory Services

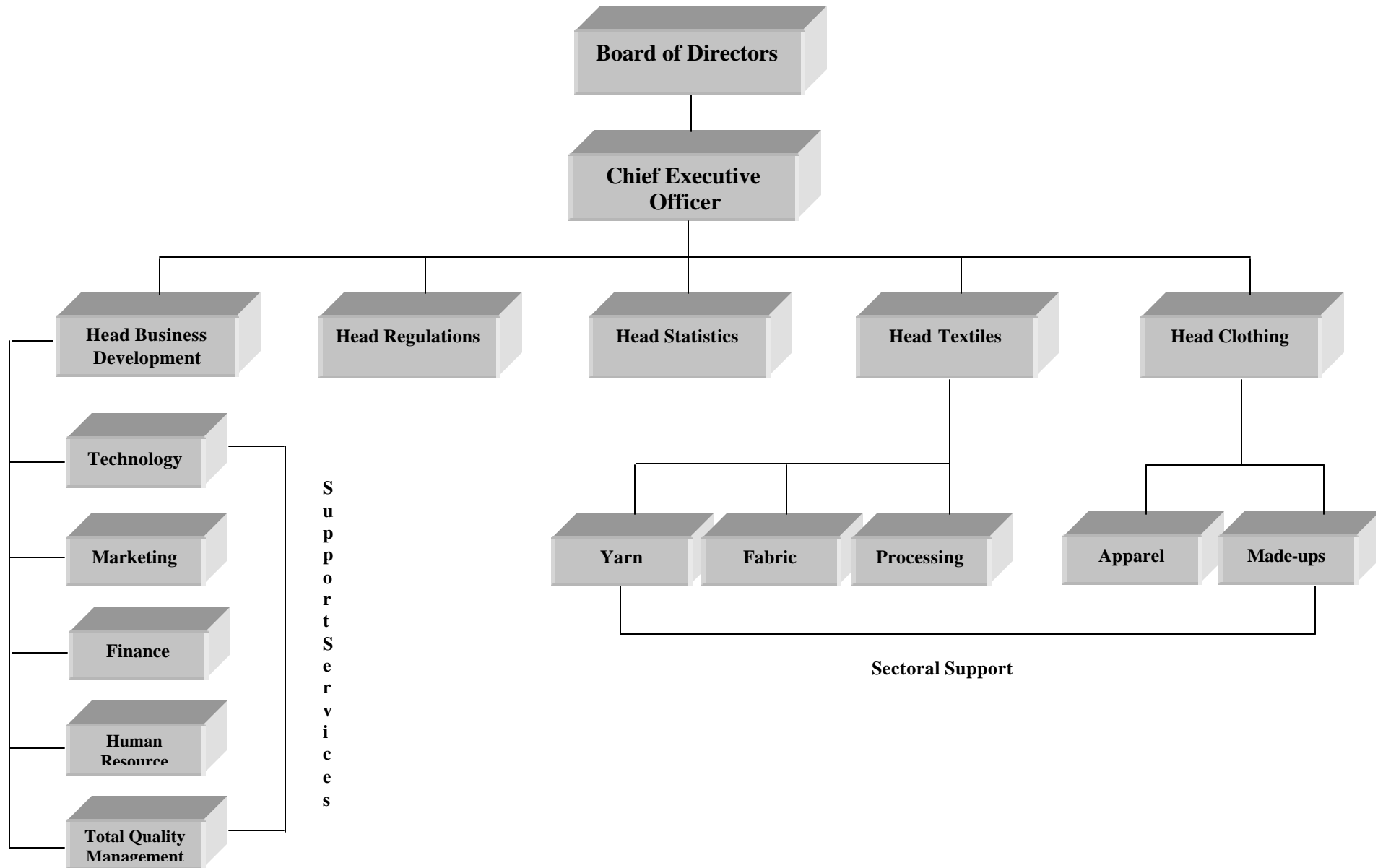
The sectoral arms of the textile board such as yarn, fabric, and apparel, etc will work on their respective sub-sectors whereas the supporting arms including technology wing, regulations and marketing will provide business support services to the all the textile sub-sectors.

14.7.1.2.10. Promote investments in the textile sector

Currently in the textile industry of Pakistan there is no direct foreign investment (DFI). Even the export processing zone concept has failed to attract foreign investment in the country. There is only one joint venture in the mega industrial sector of the economy, whereas, countries like Indonesia, Bangladesh and also India have a number of joint ventures in the textile sector. It would be the responsibility of the textile board to devise strategies so as to attract foreign as well as local investment in the textile sector. The concept of Textile City would also be developed by the board to promote joint ventures and foreign investment in the textile sector.

The Board should be headed by a full time Chairman preferably from the Private Sector who is well-versed in project management techniques and can take full responsibility for the implementation of the strategy. For this he will require full commitment and support from the highest office in the country. The membership of the Board must have a private sector bias with the inclusion of industry representatives.

Organogram of the Textile Board of Pakistan



14.7.2. Textile City in Karachi and Lahore

To promote Pakistan internationally as a leading producer of textile products the concept of two textile cities, one in Karachi and one in Lahore, is proposed. Due to the fragmented nature of the textile industry and various other socio-cultural differences, the international buyers tend to shy away from Pakistani market. The basic idea of establishing textile cities is based on a project called the 'Milano Project' under which a Fashion Apparel Valley will be developed in Korea.

The concept is very similar to what the Government is trying to achieve in the information technology sector through the establishment of technology Parks. Obviously in comparison, the size of such one stop shop in case of textiles would be much bigger than that for information technology. From manufacturers point of view these textile cities will provide garment and textile display centres designed to attract top of the line international brands. New institutes for human resource development, modern research facilities in fibres, fabrics and fashion design should also be established in the cities. The area should be large enough to accommodate investments in key textile sub-sectors.

In order to attract exporters to set up their manufacturing facilities in these cities attractive export oriented incentives shall be provided. It is suggested that these cities be given the status of Textile Export Processing zones enjoying similar incentives as in the case of EPZs. Such incentives would also be helpful in stimulating the foreign investment through joint ventures in the textile sector.

Hong Kong is an ideal example, which serves the purpose of a one-stop shop for the international buyers. Although it was not able to achieve the status of a global market place overnight, a first step in this direction would be the establishment of these cities. Pakistan with its huge textile base including the large indigenous production of fibre, strong spinning sector, a growing sophisticated weaving industry and enormous potential for apparel manufacturing has all the important ingredients to become a hub of textile sourcing in the Asian region.

14.7.3. Revival of Federal Export Promotion Board

A Federal Export Promotion Board has been established by the Government of Pakistan to continuously monitor export performance of the country. Unfortunately the Board has not been able to contribute positively towards the export growth of the country. It is proposed that the Federal Export Promotion Board should be reactivated and the Chief Executive should hold reviews every alternate month. In this regard Ministry of Commerce is recommended to take the initiative to revive the Board.

14.7.4. Foreign Exchange Regime

The currency exchange rates have a direct impact on the exports of a country. Over-valued currency makes local products uncompetitive. Readjustments in the exchange rates should be made by using a basket of foreign currencies rather than a single currency (US Dollar). One reason, given by the textile exporters, for being uncompetitive in the EU markets is the currency exchange rate. The State Bank of Pakistan should be asked to formulate a system of exchange rates whereby the country does not lose its competitive advantage in any market.

According to state bank the exchange rate is already determined on a daily basis using a basket of currencies. Exporters concerns however can be addressed by increasing the weight of European and other non-US trading partners' currencies in the currency basket. This weight can be adjusted according to the planned market diversification of textile products.

14.7.5. Incentives Encashment

Among various other export incentive packages announced by the GOP, a package of cash award on export performance was also announced by the Government in the Trade Policy. Unfortunately no payments were made to the exporters under this scheme. It is also recommended that CBR and State Bank of Pakistan should take up the responsibility of implementing a smooth mechanism, through the network of commercial banks, to facilitate the disbursement of such cash incentives.

14.7.6. Incentives for BMR and Value Addition

Across the textile sector value chain, modernisation of machines and equipment and process improvement is of vital importance to facilitate the switch from low value added products to high value added textiles. Due to limited resources the entrepreneurs themselves are unable to finance their balancing, modernisation and replacement (BMR) needs, through equity. Currently available loans from financial sector, at high mark up rates, make the BMR and investment in new equipment an un-viable business option. To increase the textile exports from existing level of US \$ 4.8 billion to US \$ 13.8 billion (In High Road scenario), more than US \$ 6 billion of investment is required. This can only happen if the financial sector of the country is committed to provide an impetus through funding at lower interest rates. Interest rates as low as 9% are being provided to the blue chip companies. It's a matter of confidence levels: Support must be provided to the Textile Industry and the Financial Institutions to prepare thoroughly investigated and viable feasibilities, supported by Government's policy framework.

The Indian government has recently designed a programme to provide subsidised credit for investment in modern textile equipment. The Government gives out a subsidy of 5% on market interests rates. The State Bank of Pakistan, in this regard, is proposed to design a scheme with incentives for investment to improve the export performance of the textile sector.

It is also recommended that an incentive programme, similar to the Export Refinance (for working capital), be designed for long-term investments and BMR. The access of textile exporters to subsidised credit could be linked with the past export performance, as in the Export Refinance, and also tied with the future incremental export earnings. Maximum subsidy on interest rate should be provided to the exporters of high value added products, such as garments, and vice versa. Similarly the subsidy for forward integration, moving towards high value addition, should be greater than that for backward integration.

14.7.7. Anti Dumping and Countervailing Duties

The Ministry of Commerce should upgrade its institutional arrangements and expertise to deal with complex issues involving anti-dumping issues and countervailing duties arising as a result of global integration. Interestingly, majority of anti dumping cases in the WTO are on Pakistan's export of textiles. It is important for the Government to continuously monitor the imports of various textile products into the country, to take notice of dumping from other countries.

14.7.8. International Exhibitions

International exhibitions and trade shows provide an excellent opportunity to gain access to new markets, increase penetration in existing markets and introduce new products. By ensuring participation in trade related international events export growth can be enhanced to a great extent.

The Export Promotion Bureau has policy of sponsoring exporters from various sectors to these international trade fairs and exhibitions. It is observed that there are no set criteria of the selection of participants for such events, which sometimes results in building a negative country image. In this regard it is proposed that EPB should lay down certain standards for participating in trade fairs and preference should be given to the exporters of high value added quality textile products.

14.7.9. Role of Commercial Offices

Pakistan's commercial offices abroad can prove to be very effective in promoting exports. Presence in a particular market gives them an edge over other export promotion agencies which do not have this advantage. A pro-active approach, on the part of commercial offices, in providing the local export promotion agencies and trade association with market information and trade queries on a regular basis is needed. This effort combined with other policy measure will have a great impact in developing exports. Another important aspect is the training of commercial officers. They should be able to effectively market Pakistani products and improve the country image. The Ministry of Commerce is recommended to take steps so that the performance of the commercial offices can be improved to have a positive contribution in the export led growth of the country.

14.7.10. International Standards Compliance

The implementation of WTO and the MFA phase out will start another era of non-tariff barriers for the developing countries. The non-tariff barriers consists of a long list of standards and social issues including, child labour, terms of engagement, environment and other quality standards like ISO 9000 & 14000, CE marking, etc. Already the Ministry of Science & Technology is providing a cash incentive of Rs. 200,000 for ISO certification. It is proposed that firstly the application of this cash incentive on quality standards compliance should be broadened and other standards should also be made a part of the scheme. Secondly, Ministry of Industries and the Ministry of Science and Technology should jointly work out a programme of educating and creating awareness among the exporters regarding the negative impact of the upcoming non-tariff barriers.

14.7.11. E-Commerce

The increased use of internet has transformed the world into a global village. Besides being the biggest source of information, internet is also nowadays playing an instrumental role in business transactions. Numerous organisations are actively developing databases to facilitate business to business commerce and trade (B2B Commerce). The concept is based on creating a virtual marketplace for the buyers and suppliers. In order to achieve the desired targets and quantum leap incentives should be given to promote the use of internet in the industry. To initiate the process awards may be given to best textile web-sites, transactions/exports materialised through B2B commerce can be rewarded through additional quota allocations and free participation in trade fares.

14.8. Regulatory Interventions

The recommendations in this section are related to interventions in the regulatory framework, having a direct effect on the textile sector across its value chain.

14.8.1. Import-Export Regime

The main feature of the Textile Vision 2005 is the liberalisation of the import-export regime for the textile sector. Two different options have been proposed to liberalise the trade regime

- a) Free imports and exports.
- b) Revamp existing bonding and temporary import schemes.

Under the first option it is recommended that import tariff for textile products should be eliminated. By doing away with the existing tariffs, inputs of various textile sub-sectors, such as spinning, weaving, apparel, etc will be made available at international prices to the exporters. It will also reduce the burden of exporters to go through unproductive process of documentation under various temporary import schemes offered by the Government. Since 80% of textile production in the country is export oriented, it makes no sense to hold the industry to ransom to procedural impediments.

In case the first option is impractical to implement for the reasons of shortfall in Government revenue collection and protection to domestic manufacturers, the existing system of temporary importation (No Duty No Drawback) should be revamped. The purpose of such schemes should be to facilitate the exporters and encourage maximum usage of the incentives provided. The procedures involved in temporary importation are complex and difficult to manage due to which these schemes are not generally used.

It is recommended that 'Pass Book' system may be studied in depth and introduced. The exporter should maintain the total imported input (raw material & intermediate products) requirement and consumption record, based on his output in the Pass Book and should be allowed to import the required quantities duty free. Another option is to involve the commercial banks and authorise them to process the temporary import requirements of the exporters. Effective and smooth operation of such a mechanism is based on the hypothesis that the letter of credits (L/Cs) and export refinance processed by the commercial banks can give them a fair idea of the imported raw material requirements of exporters. Further support to the commercial banks can also be provided by the Ministry of Industries and the Textile Board.

14.8.2. Input-Output Co-efficient

The exporters believe that the calculation and readjustments of rebate and duty drawbacks is done arbitrarily by the Government. To come up with accurate adjustments in drawbacks and rebates, the Government should establish an input-output co-efficient organisation for the export sector. The industry representatives should meet frequently to discuss the revisions in the drawback and rebate mechanism. It is recommended that the Ministry of Industries and the Textile Board should design a framework with the CBR to decide the mechanics of this proposal.

14.8.3. Quota Allocation

Availability of Textile quotas has always been a major problem for the exporters. Despite the fact that historical utilisation of quotas, except in a few textile categories, has been less than 100%.

The quota policy of other countries, when observed for benchmarking purposes, revealed the fact that most of the Asian competitors including India and Philippines allocate major portion of quota on the basis of value addition (unit price realisation). The realistic approach requires that the quotas should be allocated on the basis of value addition rather than simple performance (volumes). In Pakistan, before 1999, textile quota policy was based on a mix of both past performance and value addition. In the recent Trade Policy 1999-2000 announced by the GoP, the quota policy has been revised. Currently the quota allocation is on the basis of past performance only and not on value addition.

It is suggested that starting with a balance of value & volume base quota allocation shall completely be transferred towards value in three years time, two years before the quota eventually lapses. Moreover information about quota availability with different players shall be made available openly and penalties should be introduced for low quota and value performances. This will help bringing down the cost of quota and make it a tool for achieving high value addition as well as for achieving product diversification.

14.8.4. Technology Import Policy

Technology up-gradation in the textile sector is also necessary to improve the product quality and the product mix. The capability of old machines is limited to produce certain level of quality. It is also true that a quantum leap from very low level to the highest level is impossible to achieve. Not all the exporters have the muscle to invest in brand new imported equipment. In some sub-sectors of textile industry 5-10 years old equipment and machines can provide the desired product mix and quality levels which are sufficient to meet the requirements of the upstream industry and produce exportable surplus. Taking that into account it is recommended that the import of second hand equipment for the textile sector should not be completely banned, rather a time bar limit should be imposed on the imports. This time bar shall vary with sector and type of machinery involved. A very careful analysis will have to be done to identify the maximum age of different machinery that can be allowed to be imported. Banks and other financial institutions shall allocated specific investment for textile technology up gradation. If importers of new & modern textile machinery can prove substantial value addition from specific modernisation plan government should extend the subsidised interest rates to financial requirements for this particular purpose.

14.8.5. Cash Awards for Exporters

To re-establish the credibility of Government and reinstate the confidence of business community, the Government should implement export performance cash award scheme announced in the Trade Policy of 1998-99. Even when the scheme was announced no exporter was given this award. It is recommended that the cash award scheme should be revived so as to appreciate and acknowledge the contribution made by the exporters towards the economic prosperity of the country. The psychological impact of these awards in terms of creating healthy competition will be consequential.

14.8.6. Labour Levies

Different labour related departments of the Government, namely Social Security, Employees Old Age Benefit Institution (EOBI), etc. collect labour levies separately from the business community. The entrepreneurs/exporters feel that a great deal of man-hours is wasted in dealing with these departments which could actually be employed in productive activities. Therefore it is recommended that one window facility should be provided to the exporters for the collection of different labour levies. Instead of having separate formulas of each department to evaluate and collect labour taxes, 0.1% of the total export earnings should be collected on account of all the labour levies. EOBI can be assigned the responsibility of collecting the amount from the exporters. Another option for the collection of these funds is that commercial or nationalised banks should be authorised to collect the contribution and there shall be no need for any EOBI official to visit any manufacturing facility geared towards textile exports.

14.8.7. Policy Information Dissemination

During the process of discussion with the textile exporters it was observed that there is a lack of understanding and clarity about the various temporary importation schemes and incentive packages announced by the Government. To create awareness among exporters and to provide them with an opportunity to draw maximum benefit from such schemes, the Government should ensure the dissemination of information on the subject. This can be achieved through conducting advertising campaigns on print as well as electronic media, improved co-ordination among the government agencies and the trade & industry associations and by providing over the counter information services (help desk in the concerned government department). A development of a well-designed and frequently updated web page would be invaluable.

14.9. Sectoral Interventions in Cotton

14.9.1. Exempt Sales Tax on lint & oil cake

Recommendation is to exempt sales tax on cotton lint and oil cake at the ginning stage. Sales Tax should be levied on spinning onwards. Sales tax on cotton has encouraged gross mis-reporting of ginned cotton, which according to some estimates has reached a figure of more than one million bales.

The responsibility for this intervention lies with CBR.

14.9.2. Excise Duty

Recommendation is to remove the imposition of excise duty on import of cotton lint. Since the proposal is to allow free import and export of cotton lint, then there should not be any customs or excise duty. CBR again gets the responsibility for actually removing the duty.

14.9.3. Free Trade of Cotton

The proposal is that lint cotton should be a commodity that can be freely traded internationally at any time of year without any restrictions. This is in the long-term interest of the cotton lint business in Pakistan. This will encourage the enforcement of cotton standardisation because a pull will be created for a better quality cotton-lint, which will command a higher price. The general perception is that imported cotton lint carries a smaller percentage of contamination than the locally ginned cotton. This will force the local ginners to improve their quality standards and address contamination problems.

Responsibility Min of Commerce, CBR

14.9.4. Excise Duty on Saw-gin Blade

The proposal is to remove excise duty imposition on the import of saw gin blades. These blades are used in cotton ginning. The import duty raises the replacement cost of these blades for the ginners and they are induced to carry out extensive repairs. These repaired blades have irregular tooth angles and smaller diameters. The machine is then run at higher speeds to achieve the same output. This consumes more power and increases the percentage of floating fibre.

Responsibility CBR

14.9.5. Duty Free Import of Ultra Low Volume Spraying Equipment

Plant protection is one of the most crucial functions of cotton production. Lack of proper equipment for application of pesticides poses a serious drawback for growers. In this respect, it is strongly recommended that import of Ultra Low Volume (ULV) spraying equipment may be exempted from import duty and sales tax. Such equipment is a low cost and specially suited for low acreage farmer who constitute majority of the users. Reducing the cost of ULV equipment will increase its use and therefore the efficacy of pesticide use in the country.

Responsibility CBR

14.9.6. Cotton Lint Export

Pakistan needs to be continuously present in the international cotton export market. The export should not be restricted in the early parts of the season. This step is crucial to stabilize the lint prices at the domestic level. Also since cotton contracts are firmed up before cotton arrivals, Pakistani exporters need to be there in the early days to develop and preserve linkages with international buyers.

Responsibility CBR

14.9.7. Role of Public Sector

It is proposed that TCP should not act as a trader in phutti purchase, rather it should participate only as a price stabilising third buyer for lint in addition to exporters and mill buyers on commercially viable basis.

Mechanism 1: TCP should purchase lint at export parity price and thus act as a market maker.

Mechanism 2: In case prices of phutti fall below the economic threshold for the grower TCP should buy lint to stabilise the price above economic level for the grower. TCP should have a clearly allocated budget from the government for this purpose before the cotton arrival season starts.

Responsibility Min of Commerce, TCP.

14.9.8. Cotton Hedge Markets

It is proposed that a committee be formed with immediate effect. This committee should address the issues of hedge marketing in the perspective of Islam and ensure that the by-laws of KCA safeguard the interests of all stakeholders in the cotton value chain. A secondary role of this committee should be to study integration of KCA with International markets. Cotton hedge markets and introduction of futures will bring predictability & stability in the prices of crop.

Responsibility Min of Commerce, KCA

14.9.9. Cotton Quality Standards

It is strongly proposed that phutti and lint grading standards of PCSI should be implemented from this crop season at the ginning stage. This is imperative for cotton futures and for strengthening the marketing mechanism, which recognises the paying of premium prices for lint based on clear and objective standards, which are internationally recognised. The need is to institutionalise PCSI by Cotton Standardisation Act/Ordinance.

Responsibility Min of Commerce, PCSI

14.9.10. Improvement of Cultural Practices

In order to improve our average cotton yield per acre, the cultural practices of cotton need to be improved and also focus upon the development of cotton varieties which are needed by the industry i.e. cotton with longer staple lengths. Private sector breeding of cotton needs to be encouraged. There are number of programs undertaken by MINFAL and PCCC, they need to be more focused and they need to reach out more to the small farmer located far from cotton research stations.

Responsibility MINFAL, PCCC

14.9.11. Cotton Crop Estimation

Cotton crop estimation carried out by PCCC has some weaknesses. If cotton futures are institutionalised it is expected that weaknesses in cotton crop estimation will be overcome and the private sector would be more aggressively involved in this area.

Responsibility PCCC

14.9.12. Ginning Research Institute

It is proposed that Ginning Research Institute should be set-up. This institute at Multan will provide the much-needed institutional support to the ginning industry in Pakistan. A proposal PC-1 for such an institution has already been submitted to the ministry for approval.

Responsibility Min of Commerce, PCCC.

14.9.13. Cotton Production

The following table summarises how cotton crop production can be increase from the present average 10 million bales to around 15 million bales. 10% production increase can be achieved by expanding the areas under sugar cane crop in Punjab i.e. Multan and Bahawalpur Divisions. Areas in Baluchistan and NWFP are available for cotton production, but due to the absence of ginning facilities less than 10,000 acres is under cotton crop. Another 10% increase can be achieved by fully exploiting the genetic potential of the cottonseed. Better agronomic practices can give an another 20% boost in production. Finally by improving the ginning technology Pakistan can take its present cotton production beyond 15 million bales.

Table 14.9.1: Factors to Increase Cotton Production

Factors to Increase production	% Increase	Cotton Bales (Million)
Acreage	10	11.0
Genetic Pot	10	12.1
Agronomy	20	14.5
GOT	5	15.2

Following areas have been listed which must be focussed upon to improve our average yield, production and quality:

- 1) Production Increase
 - a) Improve average yield
 - Seed: Commercialize Breeding & Production
 - Agronomic Practices
 - Engineering interventions in:
 - Seed bed preparation
 - Planting
 - Spraying
 - Irrigation & Fertilizer
 - Optimize through co-relation to plant population
 - b) Improve average GOT: 33% to 37%
 - c) Expand area
- 2) Improve cotton quality
 - a) Staple length: (26 mm to 29 mm)
 - b) Minimise contamination
 - c) Improve ginning technology

A comparative analysis was carried out on Bahawalpur and Multan division areas where sugar cane is being cultivated. Taking very conservative assumptions it is seen that the value per acre-inch of water for sugar cane is \$ 3.36 whereas that for Cotton and Wheat is \$ 10.94. We must decide today how we want to utilise our limiting resource, which is water. As the water situation has exacerbated this year because of very little rainfall in the past months, do we still want to continue to grow crops which make no sense when evaluating our comparative advantage.

Table 14.9.2: Comparison of Cotton vs Sugar Cane

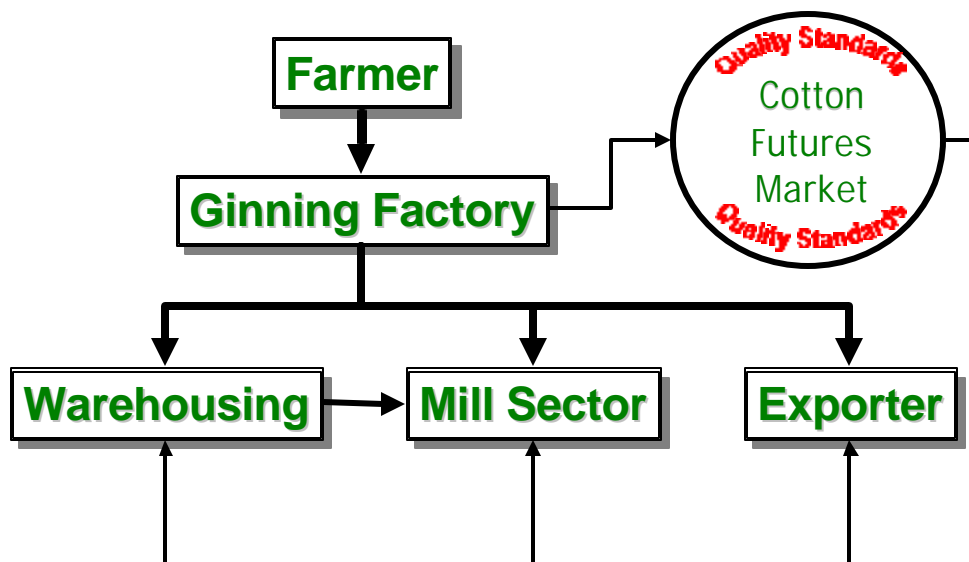
		Sugarcane	Cotton	Wheat	Cotton + Wheat
Primary Product Value	\$ Million	101.6	146.4	38.7	185.1
Secondary Product Value	\$ Million	11.4	13.5		13.5
Total Value	\$ Million	113.0	159.9	38.7	198.6
Value / Acre	\$ per Acre	302.2	435.6	115.2	550.8
Value/Acre inch	\$ per Acre Inch	3.36	15.9	4.80	10.94

14.9.14. Strengthen Marketing Mechanism

There are three basic areas, which form the fundamentals for strengthening our Cotton Markets:

- Cotton hedge markets
- Quality standardisation
- Commercial warehousing

A basic value chain diagram is shown in the figure below. The role of future markets and the importance of commercial warehousing has been highlighted. It is felt that the role of the *Arti* or *middleman* should be minimised. Although these entities do play a role in the existing mechanism, but they add little value and are the major source of contamination.

Figure 14.9.1: Proposed Value Chain

The different arrow-line widths represent an approximation on the volumes of cotton flow. The cotton futures market is not expected to handle very large volumes in the short-term but will play a crucial role in providing a stability to the cotton market. The cotton contract will take some time to get a widespread investor confidence as a tool for investment. Karachi Cotton Association will have the responsibility of managing this market.

Exporters can book their orders in advance before the actual arrivals while being insulated from fluctuating prices. The mill sector can reduce its inventory carrying costs by taking up futures contract for delivery in the month they would actually consume cotton to produce yarn.

Another very crucial element in the value chain is the importance of commercial warehousing. At present the ginneries are forced to provide sub-standard warehousing facilities because there are no other agencies to play this role. This creates severe cash-flow problems for them, which in turn is transferred down to the farmers with delayed payments. It is recommended that private sector warehousing companies should be encouraged. The warehousing receipt scheme prepared by APTMA for small or cash-strapped mills should also be given a serious consideration.

14.10. Sectoral Interventions in Spinning

14.10.1. Shift to value addition

Currently, major portion of yarn production is concentrated in coarse and medium counts. In 1998, coarse yarn accounted for 44% of the total production, followed by 27% for the medium count. The percentage of fine and superfine counts was only 5% of the total production. One of the main reasons for this trend was the difficulty in having access to superior quality cotton (high staple length and minimum contamination) but now, in view of free availability of cotton, spinning industry should be able to move in the direction of high value-added yarns.

There is a strong need for the industry to move into production and export of finer counts. Along with the finer counts, spinning industry should also focus on other value-added yarns such as dyed yarns and blends of cotton with synthetic fibres.

Government should design its incentive system in a manner that should promote value-addition. Export Refinance facility should be available only to yarns 40/s and above. Moreover, the refinance rate should be cascaded, lower for the higher counts and other value-added yarns and higher for the lower counts.

14.10.2. Increase the share of manmade fibres

At present, the share of PC and PV yarn in the total yarn production is 23%. This means a spindle utilisation of 18% for manmade fibres (MMF). World consumption of fibre is shifting from cotton to MMF. Keeping this in view, the industry should focus on increasing the share of MMF.

Looking at a Global level, the long term structural changes in the market are well established. We work in an industry which is:

- Increasing in percentage of man-made fibre consumption versus natural fibres. According to a study by International Textile Manufacturing Federation share of manmade fibre in total fibre mill consumption has gone up to 60% and this share is expected to settle at little over 60% in next few years.
- Within the man-made sector, increasing percentage of filament yarn at the expense of staple
- And-for both manmade filament & staple- in which polyester is rapidly gaining share at the expense of competitive man-mades like cellulose, acrylic and nylon.

To promote the growth of MMF, Government should allow the duty free imports of manmade fibres not manufactured in Pakistan and rationalise the duty structure for manmade fibres produced in Pakistan.

Recently, there has been a change in the structure of manmade fibre (MMF) industry. A large MMF manufacturing group has taken over another large MMF manufacturing concern. This shows that MMF industry is moving towards consolidation. MMF industry has already been operating as a protected industry with few manufacturers. As a result of this merger, it is likely that an oligopoly situation is created in the industry, which would further decrease the bargaining power of MMF consumers against MMF producers. The consumers would have no option but to buy at whatsoever price is set by the manufacturer. It is recommended that a new polyester plant of the latest technology should be installed in the country so as to balance out the power of the existing manufacturers and the imports of manmade fibre should be liberalised.

14.10.3. BMR of the industry

Spinning industry went through recession in mid-nineties due to consecutive crop failures and development of an over-capacity situation. There has been no major investment in the industry in the last five years. The result is that machinery used by most of the units is old. There is a need for conducting BMR of the industry. This becomes even more important in the context of moving the industry towards high value added yarns since high quality yarns can only be manufactured on high quality machines.

According to our estimates, total amount required for conducting complete BMR of the existing working spindles is about Rs 14 billion.

Government should provide subsidised credit to the industry for BMR and link its provision to the export performance of the company. (As discussed in the general recommendations).

Moreover, government should facilitate the availability of machinery required for BMR. The machinery should be allowed to be imported duty free. The procedure for import of machinery under SRO 27 should be simplified and irritants should be removed.

14.10.4. Revival of the Closed Spindles

Currently, of the total 8.3 million spindles, 1.7 million spindles are closed. According to an estimate, about 550,000 of these spindles can be revived. Cost for revival has been calculated as Rs 1 billion.

Government has established an organisation for rehabilitation of sick units. It should conduct a detailed survey of the spinning industry and recommend the mechanism for revival of these closed spindles. Exit procedures should be simplified so that the closed spindles can be revived quickly.

14.10.5. Quality standards of Yarn

Average price obtained by Pakistani yarn in the international markets is lowest among its competitors. One of the reasons for this is the product mix concentration in low counts. Other reason is the yarn contamination, which reduces the price.

It is really important to implement quality standards for yarn. The specifications of the yarn should be mentioned on the packing. This will benefit not only the foreign buyer but the local fabric manufacturer also.

To reduce the risk of contaminated yarn going into further processing, some companies are using contamination detectors. Government should facilitate the availability of contamination detectors by granting duty concessions on the import of this equipment.

The polypropylene manufacturers should be required to add yellow or orange pigmentation (sunlight sensitive) for supply to fertiliser factories and seed companies. The major source of cotton contamination is from this source and no equipment is commercially available for detection purposes. This will help in the detection of polypropylene that get mixed with cotton lint and will eventually ease contamination removal from lint.

14.10.6. Yarn Hedge Markets

Uncertain yarn prices cause problems both for the fabric manufacturer and yarn manufacturer. By establishing yarn hedge markets, the uncertainty prevailing in the market will be removed. It will also improve the confidence level of the foreign buyer in the Pakistani markets.

Government should form a committee to conduct a cost and benefit analysis of this proposal.

14.10.7. Warehousing

An independent consultant for State Bank of Pakistan and APTMA has prepared a report on Warehouse Receipt Scheme.

The basic purpose of this scheme is to solve the working capital problems of the spinning mills (specially those whose Balance Sheets do not permit borrowing against security by Prudential Regulations) by providing easy access to short term credit from banks with relative ease. This will also ensure adequate supply of raw material to the spinner and provide better security for bank's assets.

In this scheme, cotton will be stored in independent warehouses, which will be managed by *muccaddams* and a reputable security company.

14.11. Sectoral Interventions in Weaving

14.11.1. Technology Up-gradation

In weaving, most of the problems are centred around the use of old technology. Major production of fabric comes from the traditional power and auto looms. Rest of the fabric is manufactured on shuttle-less looms of which major portion is manufactured on projectile and rapier looms and smaller portion on air jet looms.

The fabric manufactured on power and auto looms is inferior in quality and mostly caters to made-ups. Fabric required for garments have to be manufactured on shuttle-less and air jet looms.

In the industry, there is strong need for technology up-gradation. For this three routes are proposed and are discussed below:

14.11.2. Conversion from Power to Auto looms

As technology is upgraded from power to auto loom, better production can be achieved and the number of defects per unit length in the fabric is reduced. Some premium in price can be charged for a fabric made on auto compared to the same fabric made on power. Infact market forces will automatically provide the premium for a fabric that can be stitched into higher value added garments. Currently, of the total shuttle looms installed in the country only an estimated 10% are auto looms and the rest 90% are power looms.

It is proposed that units having power looms up to 50 and more shall be provided with financial facility to upgrades facility should be provided for upgrading those to auto.

14.11.3. Conversion from power/auto/shuttle-less to air jet

Despite the fact that quality of the fabric is slightly improved because of a slow shift from power to auto looms, the limitations for production of higher density fabrics for garments still remains. Higher density fabrics can only be manufactured on shuttle-less or air jet looms. Air jet is the latest technology available for producing cotton and blended fabric and it is recommended that Government should design its incentive package for promoting air jet looms. This will eventually lead to improvement in quality of the fabric produced.

For power/auto loom units with more than 50 looms or for units running shuttle-less looms, financial and technical facility should be provided for up-gradation to air jet looms.

14.11.4. Conversion from power/auto to water jet looms

Power and auto looms are also in use for the production of 100% synthetic fabric. The number of water jet looms involved in production of synthetic fabric is very small. Fabric made on power and auto looms has quality issues. In order to produce quality synthetic fabric, the industry should shift the production to water jet looms.

Funds should be provided for this technology up-gradation through:

- a) Scheme of subsidised credit facility for BMR (linked to export performance)
- b) Technology up-gradation fund

(These two schemes have been discussed in the general recommendation part)

14.11.5. Co-operatives for Power/auto looms

Average unit size of power/auto looms is about 7-8 looms per unit. Due to small size, these units face limitations and upgradation doesn't become a feasible option for them. The idea is to organise common manufacturing facility with multiple ownership. Power & auto looms operators operating in same area should be encouraged to form co-operatives in which some small manufacturers can combine their machines in one shed and run the business as one enterprise. Incentive package should be designed in a way that such co-operatives are encouraged through easier access to credits and technical facility from the government. It will also be viable for the government to provide common marketing support services to these co-operatives rather than to individual operators.

Government should announce special incentive programmes for having a unit larger than 20 looms. This will move the entrepreneur to go for larger units thereby leading to economies of scale.

14.12. Sectoral Interventions for Processing

Processing is the vital link in the entire textile value chain that contributes heavily to value addition second only to stitching. Even stitching is rendered ineffective if processing backup is weak or uncompetitive. Unfortunately this most important link is also the weakest in the textile value chain.

14.12.1. New Commercial Processing Units

In processing, there is need for establishing new state-of-the-art units. These units will be able to supply processed fabric of the international standards to the garment industry. The mix of these new units should contain more dyeing units than printing units. It is suggested that sixty five percent of the new investment should be towards dyeing and thirty five percent should be allocated for printing capacity building.

In order to build capacity in the country that can support increased pull for high quality finished fabric as visualised in three scenarios of the textile vision; it is suggested that special credit facilities be allocated for processing as a separate sector. One option is to provide financing for these new units at subsidised special rates for a limited time period. Secondly these credit facilities for upgrading the ageing processing facilities should be linked to export trends of particular units and potential business that these units can attract on the basis of new investment.

14.12.2. Human Resource Development

Processing demands of the newer and complex fabric finishes requires high level of human expertise. Processing technologies are evolving rapidly and the new machines require familiarity with automated designing and CAD/CAM principles. As dyeing is much more a complex process than printing the need is more urgent for dyeing sector. Currently, there is a dearth of formal training facilities in the country that can match the demands of changing technologies involved. The system works by inducting new graduates mainly from Shahdara Institute of Technology in Lahore at apprentice level and these recruits are then trained by traditional masters.

The skills of traditional dyeing masters have coped well with tough competition in 1990s and are still a valuable asset for the country. The training therefore should take two dimensions. On the one hand new and fully equipped training institutes should be set up for imparting degree training and long courses specially designed for processing needs. On the other hand tailor made modular short courses for already employed manpower shall be designed and training shall be imparted either on the premises or at accessible centres located closely to manufacturing hubs.

Two comprehensive training institutions are proposed one each at textile city Lahore and at Karachi. Technical and Vocational Training Authority (TEVTA) should play an active role in setting up these new institutes. It should be set through a joint effort by Government and the industry. After establishment, the management should be handed over to the industry. Relevant trade associations or preferably a group of interested people from within the industry should be made responsible for running the institute.

An extensive scheme for upgradation of existing training Institutes in textile technology should be formulated and implemented.

14.12.3. Availability of dyes at low rates

The cost of dyes and chemicals is a major cost in the total processing cost. Most of the dyes used by the industry are imported. The local dyes industry is protected through an import duty. It is proposed that for dyes not manufactured in Pakistan, the duty should be reduced. To decrease the cost of dyes manufactured locally, the raw material for manufacturing these dyes should be allowed to be imported duty free. This will result in reduction in cost of dyes manufacturing and in turn decrease the processing cost. Thus the processed fabric from Pakistan will become more competitive in the international market. Moreover, the processed fabric is the input for the garments and made-ups industry. This decrease in duty will lead to increased competitiveness for the garments and made-ups industry also.

14.12.4. Certification for imported dyes

Currently, there is no check on the quality of the imported dyes. It is recommended that all the dyes imported into Pakistan should be certified by an international agency for their quality and compliance to environmental standards.

In coming years of free trade the major threat to exports from developing countries will be environmental restrictions imposed by developed countries. Importers in these countries have already become conscious about dyes that can cause environmental or health hazards. Low cost but hazardous dyes should not be allowed in the country as this can cause severe long-term damage to the reputation of Pakistan as an exporter.

14.13. Sectoral Interventions for Apparel

14.13.1. Marketing

Apparel sector is the main driving force for growth in textile industry. The sector brings largest value addition in export earnings and provides employment to the greatest number of people. The need therefore is to place special focus on the sector. Traditionally, this sector has been the weakest link in textile value chain. Most of garments manufacturers/exporters could not gear up themselves with the marketing needs of the times and as a result the whole sector suffered in a way that it could not up-grade itself to match international market driven demands. For this very same reason garments can't attract high unit value realisation and manufacturers don't find attractive value addition through forward integration.

Issues concerning with forward linkages of the sector and accordingly recommendations / interventions are described as under:

14.13.2. Product / Market Diversification:

Main limitation to growth of the apparel sector in Pakistan has been lack of diversification, both in products and markets. Major portion of our apparel exports is based on a very limited range of products and these exports are dependent on only a limited number of markets. R & D and market research are lacking. Our current product mix of apparel exports is mainly based on knitwear and men's wear while there is a need to balance this product mix with a *shift towards women's wear, sportswear and children wear with more emphasis on woven garments*. Textile vision is initially targeting sports, leisure and workwears. Growth in sports and leisurewear has been very strong, as both sports brands have moved into fashion (i.e. Adidas, Nike) and fashion brands have moved into sports (i.e. Polo Ralph Lauren). Europe and USA represent 78% of the total retail value in the sports segment. (ITC)

Quota incentive can be used as a tool to achieve this objective of product/market diversification. Exporters of textile products to non-quota countries and non-quota products to quota countries (with a condition of minimum export performance on the basis of value and quantity) should be eligible for a certain percentage of additional quota allocation. Also, certain cash awards or special refinance facility should be given to those exporters who achieve more balanced product mix. The system of cash awards should be reintroduced and high performers should be duly acknowledged. Cash awards are efficient not in terms of their value but the recognition they provide to creative exporters.

14.13.3. Image Building

As a textiles supplier, Pakistan's current image is "low quality, low price, a non-consistent and unreliable supplier", which needs to be changed. In building Pakistan's image as a quality supplier, exhibitions and fairs are of crucial importance. At present, Pakistan's representation at most of the major international fairs is without any strategic planning. The funds already allocated for this purpose (to EPB) should be used effectively to improve the 'Made in Pakistan' image and EPB should be directly responsible for designing / standardising Pakistan's stalls in such fairs and the impact of all such efforts must be assessed.

There is no arrangement for local exhibition/fair of international standards. Our competing countries are doing very aggressive efforts to promote such exhibitions on regular basis. Exhibitions/trade fairs of international standards within and out side Pakistan must be planned with the foreign customer's expectations in mind, especially in areas like booth design, product mix etc. Local exhibitions must be made part of the regular world exhibition calendar and well advertised abroad, so that more foreign customer could be attracted.

Primary responsibility for all such activities lies with Export Promotion Bureau. Along with this, creation of a "Corporate Marketing Company" through a strategic joint venture between private and public sector (initiated by the Govt.) and then managed by the professionals should be established to achieve objectives of image building of country as a good quality textile products supplier.

14.13.4. Brand Development

Despite having a strong export base in textiles, Pakistani companies have not so far invested in developing their own brands/labels. The highest level of value addition (in terms of earnings) occurs when products are sold under a brand name. Although this requires investment on the part of manufacturer, however, there's enormous potential for our bigger players to invest in brands for the domestic, regional and global markets.

Creation of private national & international brands is very essential in this age of stiff competition. The branding can be achieved through foreign collaboration and will help in attracting foreign investment. To start with a collective brand name can be launched through a jointly owned corporate marketing company. Moreover since joint branding carries complexities and branding itself is a very expensive business it is recommended that there should be a "Brand Fund" available to serious exporters. Such fund can be established on the pattern of Export Development Fund and / or can be subsidised through EDF.

14.13.5. Joint Ventures

Joint ventures prove very efficient as they bring managerial and marketing infrastructure along. Pakistan textile industry as a whole is not very successful in attracting any worthwhile foreign investment especially in manufacturing and marketing spheres. While, many of our competing countries (e.g. Bangladesh, China, Korea etc.) have attracted foreign joint ventures successfully and now are enjoying the benefits of transfer of technology as well as the transfer of marketing expertise through their potential collaborations. Our industry needs to concentrate in this area. Major issues that hinder foreign investment and that can be controlled by the industry are; by emphasising more on the improvement of quality systems like ISO 9000 and ISO 14000 and through the better implementation of compliance related issues, and by making Board of Investment and EPB more effective (through the investment friendly policies), serious efforts should be started to establish effective joint ventures with foreign companies in the areas of marketing and manufacturing.

14.13.6. Human Resources Development

Apparel exports require skills in the fields of export marketing, quality control. There is a dire need of skill enhancement and development at middle management level, supervisors' level and at work force level.

Training the trainers is the only way to ensure continuous good quality training. Local and foreign consultants specialising in the apparel industry should be hired for this purpose for a period of time till our own professional trainers are ready to take their place. Low cost trainers include trainers from Sri Lanka, Indonesia & Korea (due to recession) and retired trainers from the West, who can match with the current training needs of the industry.

14.13.7. Commercial Labs

One of the major complaints about our industry by the foreign customers is the long lead-times for prototypes/sample development, as no dedicated facilities are available in the current set-up for this purpose. It is recommended that Government should encourage and facilitate the establishment of such small commercially managed dyeing, printing and sample development labs which could deal with shorter runs and could manage to give results in the shortest possible time periods. The necessary instrument/machinery required for such labs should be allowed to import duty free, so that these could be established easily with minimum costs and could provide a backup and regular support to the industry. Such labs will also play a very important role in the development of market driven R & D facility & database for the apparel industry covering areas of fabric development, blends development, colourisations, patterns development, design developments etc. etc.

14.13.8. Exporter's Performance Rating Database

To improve Pakistani exporters' credibility as consistent and reliable global suppliers, there is a need to develop an Exporter Performance Rating Database. The criteria for such rating should include factors like product quality, financial performance, on-time deliveries, client portfolio, etc. For maximum objectivity and fairness, this facility should be set up as a joint venture with some accredited international company.

14.13.9. Market Driven Research Centre

To provide better customer service to the international buyers purchasing from Pakistan, and to provide a strong information flow to the local manufacturers, there's a need to develop a comprehensive, market driven Research Centre. This centre will be playing a very important role to collect and disperse the best possible information about the latest developments in the products and markets. Also, this will be covering areas of information about fabric developments, blends, colours, shades, patterns, latest fashion trends and design forecasting etc.

Such a centre should be initiated with the collaboration of EPB and private sector initially, and subsequently passed on to the private sector.

14.13.10. Focus on Specialised Units

Our current industry set up is based on vertically integrated units and this is one of the major factors that restrict our exports to traditional products and markets because such units lack flexibility in their systems and require huge capital costs.

Apparel industry constitutes a very long value chain, involving weaving, knitting, dyeing, printing, finishing, stitching, accessories, and packaging processes. All of these processes require independent units with specialised machinery and labour. There is a need to encourage setting up of specialised units and to encourage small and medium scale entrepreneurs to enter into such ventures. At the Government end, such encouragement and positive signals can be given by providing long term financing on subsidised rates and by giving incentives on the import of duty free machinery for such units.

14.14. Conclusions

14.14.1. Critical Macro Policy Decisions

The proposed strategy assumes that certain fundamental macro level decisions will be taken and form the basis of the Textile Vision 2005. These are:-

14.14.2. Free Trade

All the different scenarios, low road, do-able and the high road are based on different set of assumptions to achieve various levels of investments, production, exports and imports. The scenario analysis has been conducted on the basis of the vision statement, which clearly depicts that by the year 2005 there will be an open textile sector. Across the textile value chain starting from cotton to garments, all the tariff as well as non-tariff barriers on imports and exports will be eliminated. The exporters will be allowed to import various inputs at zero rated duties.

14.14.3. Higher Technological Orbit

Textile sector in Pakistan, barring a few isolated unit, dwells at redundant technology levels. A concerted effort will have to be made at moving the industry into a higher technological orbit to produce value-added goods that are competitively priced in the international markets.

14.14.4. Human Resource Development

Investments in physical and technological resources will have to be matched by equivalent investment in the development of human resources, an area where local industry has been lacking with severity. The problems of low productivity, inefficiency and quality can be solved only if investments are made in equipment as well as human resource development.

14.14.5. Rewarding Value Addition

Value addition is the key to survive in a global environment of increasing competition and lower trade barriers. The economic, trade and tariff policy must send strong signals for rewarding value addition.

14.14.6. Eliminate Procedural and Human Level Impediments

Certain impediments to the growth in textiles are associated with the cumbersome procedures of government departments and the difficulty of dealing with a number of government agencies. Exporters have to deal with more than forty government departments, each having its own individual documentation requirements. Involvement of too many government agencies and procedures makes the exporters reluctant to avail the benefits of incentives and facilitation schemes. It is proposed that such irritants need to be completely abolished or reduced to a bare minimum level.

14.15. Critical Success Factors

The critical success factors of the proposed strategy are listed as below:-

14.15.1. International Standard Cotton

Since Pakistan's textile potential is based on availability of local raw materials, this comparative advantage can only be exploited fully if the cotton lint available at the ginning factory gate is of international grades and quality standards. Currently Pakistani cotton falls short of this ideal. Unless quality standards (and consequent relation of quality to price) are ensured, the textile potential will not be realised.

14.15.2. Producer Subsidy Equivalent to be Neutral

The textile policy recommends that free market mechanism should prevail in the economy. Across the textile value chain supply and demand should bring the prices of inputs in equilibrium. There should be no positive or negative producer subsidy for any segment of the value chain. Only in case of cotton it is recommended that Government should intervene to provide the farmers the minimum subsistence level price, in case a crisis situation arises similar to the one that occurred recently in 1999.

14.15.3. Shift to Value Addition

Value addition is a pre-requisite if Pakistan wants to attain a dominant position in the global textile arena. Value addition in the textile sector can be achieved vide a two pronged approach. Firstly by changing the product mix, e.g. in spinning switch from manufacturing of low counts yarns to finer counts yarns and secondly by moving into the exports of high value items i.e. garments and made-ups.

14.15.4. Shift to Man Made Fibres

Globally there is a shift of production from pure cotton based textiles to blended and synthetic textile products. In case of cotton fabric the total global production has been stagnant for the last ten years. Similarly the global man made fibre consumption has also increased from 48% to 59% whereas the share of cotton fibre has declined. In Pakistan the consumption of man made fibres is very low. For spinning only 18% of the total spindle capacity is used for man made fibres in Pakistan, whereas in India 40% of the total spindles are run on man made fibres. A very

low proportion of Pakistan's textile exports comprises of pure synthetic products, whereas the market for these products is much bigger than that of cotton and blended textile products. Again the focus of the strategy will have to be on the production of blended and synthetic textile products which is the area of future growth.

Annexure 1 POLICY MEASURES FOR THE TEXTILE SECTOR

INSTITUTIONAL

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
1.	Pakistan is internationally perceived to be a low quality textile producer. This not only results in low price realization but also prevents the foreign investment in this sector.	<ul style="list-style-type: none"> The concerned Government agencies like EPB and BOI should make a concerted effort to uplift the country image. 	<ul style="list-style-type: none"> EPB and BOI to formulate Marketing Plan for Pakistan's Textile sector with specific targets and resource allocation
2.	Historically, there has been a lack of implementation of policies announced by the Government from time to time.	<ul style="list-style-type: none"> A Textile Board (TB) should be established to continuously monitor the policy implementation and coordinate all the Government-related affairs in textile sector. Constitute TB by nominating members from public and private sector and providing the legal framework to define its role. 	<ul style="list-style-type: none"> Textile Commissioner's Organisation to be upgraded to TB as a self-perpetuating autonomous body.
3.	Image of Pakistan in the international markets is that of a poor quality supplier.	<ul style="list-style-type: none"> To improve the country image as a quality textile product supplier and to facilitate the international buyers in Pakistan, Textile cities should be established in Karachi and Lahore. Initiate a study for establishment of textile cities. 	<ul style="list-style-type: none"> TB to Formulate Textile City Master Plan Exact location Set of incentives
4.	Export performance of the country should be monitored continuously at the highest level of Government.	<ul style="list-style-type: none"> Revive the already established Federal Export Board (FEB) and hold regular meetings every alternate month. Timely remedial action should be initiated by the concerned authorities in case the performance is below the set targets. 	<ul style="list-style-type: none"> TB be given membership of FEB TB to monitor the progress of textile exports and report to FEB
5.	Textile sector needs proper support from Ministry of Commerce on issues like anti dumping duties and countervailing duties. This is important in view of the fact that Pakistan has the highest number of cases registered against it on dumping issues in textile.	<ul style="list-style-type: none"> Ministry of Commerce should develop its strength for dealing with the listed issues. 	<ul style="list-style-type: none"> Engage consultants with specific expertise to plead Pakistan's cases at the international forums

6.	The image of Pakistani products in the international markets is adversely affected due to poor representation and mismanagement in the international trade fairs.	<ul style="list-style-type: none"> Participants of any trade fair from Pakistan should be meeting certain minimum standards. 	<ul style="list-style-type: none"> Export Promotion Bureau should establish criteria for exporter to represent Pakistan in international trade fairs. These criteria should be strictly adhered to under the direct supervision of TB.
7.	In future, non-tariff barriers like compliance to quality and environment standards and social issues like child labor will be confronting Pakistani textile industry.		<ul style="list-style-type: none"> ISO 14000 should also be brought under the scope of the cash incentive of Rs 200,000, currently being offered by Ministry of Science & Technology for ISO 9000 certification.
8.	Currently the industry has to deal with numerous labor departments such as Social Security, EOBI, etc to collect labor levies. This results in waste of resources and precious man-hours.		<ul style="list-style-type: none"> 0.1% of export earnings should be collected on account of all labour levies A single agency (EOBI) to be made responsible for the collection of these levies.
9.	The exporters/industrialists often lack proper understanding about the mechanics of different regulatory, monetary and fiscal Government incentive packages and schemes.	<ul style="list-style-type: none"> Steps should be taken to ensure dissemination of information to the exporters Set up help desks in concerned Government departments for the purpose. 	<ul style="list-style-type: none"> Web site on a user friendly format should be developed Monthly periodicals to be published by the concerned departments Government departments to set up help desks in Chambers of Commerce and Industries in major textile clusters.
10.	The weaknesses in the cotton crop estimation system of Pakistan Central Cotton Committee (PCCC) leads to fluctuations in cotton prices.	<ul style="list-style-type: none"> Augment existing crop estimation committee with satellite monitoring 	<ul style="list-style-type: none"> Federal Government to support Provincial Governments to set up GIS (Geographical Information System) mapping link to computerized land revenue records.
11.	Involvement of TCP in phutti purchase sometimes results in creating market distortions	<ul style="list-style-type: none"> TCP should act as price stabilising third buyer for lint. It should purchase lint at export parity price and act as a market maker in case a situation arises. (Phutti price falls below the economic threshold for the growers). 	<ul style="list-style-type: none"> The competent authority to issue directives to this effect.
12.	Random fluctuations in cotton prices lead to uncertain cash flows for growers, ginners and spinners.	<ul style="list-style-type: none"> Committee should be formed to study the pros and cons of Cotton Hedge Markets. 	<ul style="list-style-type: none"> Announce formation with specific time frame to formulate regulatory structure. Announce time frame when hedge markets will become operative.
13.	Currently there are no cotton	<ul style="list-style-type: none"> Phutti and lint grading 	<ul style="list-style-type: none"> Promulgate Cotton

	quality standards in place resulting in quality problems for the upstream industries.	standards of Pakistan Cotton Standards Institute (PCSI) should be implemented.	standards Institute Ordinance.
14.		<ul style="list-style-type: none"> Ginning research institute should be established to support the ginning industry. 	<ul style="list-style-type: none"> Finalize PC-1 and execute the project.

TARIFF

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
15	High tariff protection on imported inputs for textile industry destroys the competitive advantage. Despite different temporary importation schemes in place, the tedious procedures involved in these discourage a widespread usage of these schemes by the industry. The industry also sometimes faces the problem of delayed shipments due to complex procedures leaving a bad country image.	<ul style="list-style-type: none"> Ensure free availability of inputs for exporters. Revamp temporary import schemes. Pass book system Involvement of commercial banks in monitoring temporary imports. 	<ul style="list-style-type: none"> Announce substituted mechanism for free availability of raw materials Cotton Cotton yarn Blended yarn MMF yarn Finished fabrics Garments accessories Dyes & chemicals
16	In order to make cotton available to the local textile industry, the Government has imposed Cotton Export Quota. This precludes the early season cotton exports because Quota is finally announced after industry needs and the crop size are determined.	<ul style="list-style-type: none"> Cotton should be allowed to be traded freely 	<ul style="list-style-type: none"> Ministry of Commerce should take necessary action to abolish quota imposed on the export of cotton.
17	Currently, There is a 12.5% excise duty on the import of cotton greater than 28 mm staple length. This prevents the spinner to import cotton for producing high value-added yarn.	<ul style="list-style-type: none"> Remove excise duty on import of cotton lint greater than 28 mm staple length. 	<ul style="list-style-type: none"> The competent authority may issue notification in this regard.
18	35% customs duty on saw gin blades prevents the availability of quality ginned cotton.	<ul style="list-style-type: none"> Imports of saw gin blades should be exempt from customs duty till the time that it is manufactured locally 	<ul style="list-style-type: none"> The competent authority may issue notification in this regard

FISCAL & MONETARY

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
19	High interest rate for working capital financing lead to increased overall costs of the	<ul style="list-style-type: none"> The rate of export refinance should be reduced keeping in view the recent reduction 	<ul style="list-style-type: none"> The State Bank of Pakistan (SBP) may announce new rates

	final product.	in interest rates in the country.	
20	Cash award linked to export performance announced in the trade policy 1998-99 were not disbursed.	<ul style="list-style-type: none"> The hurdles towards those cash awards on better export performance should be removed and awards should be given to the deserving exporters 	The competent authority to expedite the implementation.
21	Long term credit is not readily available and the interest rate is high	<ul style="list-style-type: none"> Initiate a scheme (Export Growth Project Finance (EGPF)) for provision of long term credit at lower rates to textile industry, in which the amount of credit is linked with the past year's performance of the exporter. Interest rates in this scheme will be cascaded according to the extent of value addition in the textile value chain, the highest value-added sector getting the lowest interest rate. In case of forward integration, interest rate will be lower than that in case of backward integration. 	<ul style="list-style-type: none"> SBP to announce EGPF interest rate for: <ul style="list-style-type: none"> Spinning ____ % Weaving ____ % Knitting ____ % Processing ____ % Made-ups ____ % Garments ____ % Eligibility criteria: <ul style="list-style-type: none"> Credit limit based on 25% of the preceding year's exports Credit disbursement to be linked with future export earnings.
22	Absence of a system to continuously monitor and revise compensation through rebates and duty draw backs discourages exports.	<ul style="list-style-type: none"> Rebates and duty drawback rates should be calculated on the basis of input output coefficients. Timely revision in the rates should be made in case of increased input cost. 	<ul style="list-style-type: none"> TB to establish a mechanism and continuously monitor the input output coefficients for textile products.
23	Small and Medium sized process vendors which contribute indirectly to the exports of the country do not enjoy tax incentives offered to the direct exporters	<ul style="list-style-type: none"> A vendor whose 80% of production is consumed for producing export goods should be treated as an Indirect Exporter and be able to avail the benefits of a similar tax structure as for direct exporters. 	<ul style="list-style-type: none"> The competent authority may issue notification to the effect making it possible for the indirect exporter to shift to turnover tax regime. (Based on 1% of total sales revenue)
24	Sales tax on cotton lint encourages misreporting of ginned cotton.	<ul style="list-style-type: none"> Sales tax on cotton lint and oil cake at the ginning stage should be abolished 	<ul style="list-style-type: none"> Competent authority may issue the notification.
25	Major percentage in the Pakistan's yarn production is that of coarse and medium count yarns. This results in low unit price realization in the international markets.	<ul style="list-style-type: none"> Export refinance facility should be available only to 40 count and above. 	<ul style="list-style-type: none"> SBP may issue circular in this effect.
26	Exchange rate calculated considering only single currency leads to a skewed rate. State Bank of Pakistan	<ul style="list-style-type: none"> The mechanism of linkage of exchange rate with basket of currencies should be strengthened. 	<ul style="list-style-type: none"> SBP to announce specific measures taken to this effect.

	should make re-adjustments in the rupee exchange rate with reference to a basket of currencies instead of with reference to US dollar only. This is specially true for exports going to EU		
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PRODUCT MIX

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
27	Current product mix of Pakistani yarn contains small percentage of blended and synthetic yarn.	<ul style="list-style-type: none"> Exempt the duty on import of manmade fibers not produced in Pakistan. Phase out the import duty on manmade fibers produced in Pakistan 	<ul style="list-style-type: none"> The competent authority may issue necessary notification to this effect Import duty on MMF, currently 25%, be made 0% by 2005 on a reduction rate of 5% per annum.
28	Currently, garments exports are highly concentrated in a few product categories and to limited number of markets.	<ul style="list-style-type: none"> Product and market diversification should be promoted through quota incentives. 	<ul style="list-style-type: none"> The competent authority may issue directive in this regard.

QUOTA

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
29	Currently, quota allocation is completely on performance basis which discourages value addition	<ul style="list-style-type: none"> Quota to be allocated on the basis of value not on performance alone. 	<ul style="list-style-type: none"> Ministry of Commerce to revise the Textile Quota Policy with a minimum of 25% quota to be allocated on value and also make provision to phase out the performance component of quota every year so as to make it 100% on value basis.
30	Inconsistency in quota policy. Four of the previous quota policies have been scrapped in the past without completing their tenures.	<ul style="list-style-type: none"> Ensure consistency in the quota policy. Policy once formulated in the best interest of the country should not be altered before the completion of its designated period. 	<ul style="list-style-type: none"> Provide legal protection to quota policy in terms of tenure by eliminating any discretionary powers.
31	New and potential exporters face the problems of quota unavailability.	<ul style="list-style-type: none"> Provision should be made in the quota policy to facilitate the new exporters. 	<ul style="list-style-type: none"> Provision to be made for allocation of at least 5% quota to the new exporters.

TECHNOLOGY

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
32	Imports of obsolete textile technology results in the production of low quality products leading to low unit price realization and builds a	<ul style="list-style-type: none"> Imports of textile machinery older than ten years should be banned. 	<ul style="list-style-type: none"> CBR to issue notification to this effect.

	negative country perception		
33	Lack of funds for investment for bringing in new technology acts a retardant to textile growth.	<ul style="list-style-type: none"> Provide subsidized credit to textile manufacturers to upgrade their technology through a 'Technology Upgradation fund'.(TUF) 	<ul style="list-style-type: none"> Ministry of Industries should formulate Master Plan based on earlier recommendation of TCO-1999
	Value added sectors like stitching and processing need to be developed on priority basis.	<ul style="list-style-type: none"> Import of textile machinery for these sectors be allowed duty free. 	<ul style="list-style-type: none"> CBR to take necessary actions.
34	Garments and made ups constitute a small percentage of the total textile exports from Pakistan.	<ul style="list-style-type: none"> Top priority should be given to stitching industry that leads to highest value addition and employment generation. Provision of funds should be made through TUF Existing exporters of garments and made ups should be provided financing through EGPF. 	<ul style="list-style-type: none"> Finalize arrangements as per investment plans. Ministry of Finance to negotiate arrangements with SBP and financial institutions.
35	Lack of proper equipment for pesticides poses a serious problem for cotton growers.	<ul style="list-style-type: none"> Import of hand-held ultra low volume spraying equipment should be exempted from import duty and sales tax. 	<ul style="list-style-type: none"> CBR to issue notification
36	Low quality fabric is produced on obsolete weaving technology resulting in low price realization. (High density fabrics cannot be produced on the traditional shuttle looms)	<ul style="list-style-type: none"> Promote air jet weaving technology for cotton and blended fabrics. Upgrade smaller units of power looms (up to 50 looms) to auto looms and power loom units larger than 50 looms to air jet looms. 	<ul style="list-style-type: none"> TB, Ministry of Finance and financial institutions to formulate master plan for the power loom sector.
37	Low quality synthetic fabric is produced on traditional looms whereas the competitors use modern water jet looms to weave high quality synthetic fabric	<ul style="list-style-type: none"> Promote water jet technology for weaving of synthetic fabric. 	<ul style="list-style-type: none"> TB, Ministry of Finance and financial institutions to formulate master plan for the power loom sector.
38	Processing is the weakest link in the entire value chain. This results in lack of quality raw material for garments and made-ups industry.	<ul style="list-style-type: none"> Develop special incentive package for promoting growth of processing industry in Pakistan. Provision of long term funds for project financing should be made available through EGPF scheme and TUF 	<ul style="list-style-type: none"> Finalize arrangements as per investment plans. Ministry of Finance to negotiate arrangements with SBP and financial institutions.

HUMAN RESOURCE

Sr. No.	Issues	Recommendations	Decisions for the Competent Authority
39	Presence of a large number of vocational training	<ul style="list-style-type: none"> Establish a separate training wing within proposed 	<ul style="list-style-type: none"> TB to formulate Master Plan for Textile sector plan based

	institutions in textile sector could not ensure quality human product capable of delivering. One of the reasons is absence of standardized curricula, teaching faculty and hardware facilities in these institutions. There is a need of establishing minimum standards for establishment of these institutes.	Textile Board. <ul style="list-style-type: none"> • Provide licensing authority to the board for all new VTIs. • Standardize courses, faculty and facilities in each subsection of textile. • Introduce training courses of shorter duration. 	on SMEDA's estimation of HR requirements up to year 2005, in collaboration with agencies like Technical Education and Vocational Training authority (TEVTA), Vocational Training Council(VTC) and academic institutes.
40	In addition to standardization there is an absolute lack of any concept of course development in Textile training. The need is to develop modern and relevant course details on national level. Local industry in collaboration with foreign universities can be brought together to develop such a course.	<ul style="list-style-type: none"> • Initiate national textile curriculum development task. The exercise shall cover all sub sectors of the textile value chain. 	<ul style="list-style-type: none"> • TB to formulate Master Plan for Textile sector plan based on SMEDA's estimation of HR requirements up to year 2005, in collaboration with agencies like Technical Education and Vocational Training authority (TEVTA), Vocational Training Council(VTC) and academic institutes.
41	Textile is becoming a technology intensive business. There is a dearth of qualified trainers who can induce efficiency in textile processes.	<ul style="list-style-type: none"> • Evaluate possibility of hiring foreign consultants for short fixed duration to train the trainers. • Institute for training the trainers. 	<ul style="list-style-type: none"> • TB to conduct Training Need Analysis of textile sector, identify trainers and arrange for training of trainers.
42	No vocational training institute can be efficient unless it's equipped with necessary hardware to get the students on hand training. Unfortunately, growing number of training institution in the country has forced these institutions to compromise on the quality and quantity of the hardware. We propose there shall be no provision for any textile institute without adequate machinery installed therein.	<ul style="list-style-type: none"> • Utilization of EDF for equipping Vocational Training Institutions. 	<ul style="list-style-type: none"> • TB to take inventory of the existing equipment, identify the up-gradation needs and prepare estimates for upgrading the technology. • Required funds for the purpose may be provided through EDF, Ministry of Finance and industry.

43	<p>Businessmen in Pakistan are less keen to invest in their Human resources. Most of the training institutions set up by the government fail because private sector usually has little or no stakes in these institutes. We are of the view that no VTI is worthwhile unless it can be economically viable in two to three years.</p>	<ul style="list-style-type: none"> • Put manufacturers and exporters on the board of all Vocational Training Institutions and govt. should discontinue funding after a specific grace period. 	<ul style="list-style-type: none"> • The respective Boards of institutions to conduct regular meetings to monitor the performance of the institutions and set targets. If targets are not met, funding should be discontinued by the Government. • All the training institutes should be given a time frame to make themselves self sustaining after which Government financial support will be withdrawn.
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15. Appendixes

Summary of Previous Textile Studies

Textile Industry of Pakistan Problems and recommendations: Mr. Muhammad Hussain

Major Issues in Textile Industry

Balancing, Modernisation and replacement

Weaving, processing and value added sub-sectors are mostly small and medium in size and there is technology gap among them, which is huge. The cloth supplied to the garment manufacturers by the power loom sector (which supplies 90% of the domestic cloth requirement) is considered to be inferior in quality. The sector of power looms is not very recognised and is facing problems like low capital investment, inferior technology and low productivity. As the conventional power loom and processing sectors are the basic source of supply of cloth, it is practically impossible for Pakistan Textile industry to move towards high value added segment with out the up-gradation these sectors. Investment in modern looms, textile dyeing, printing and finishing machinery would enable this sector to be more competitive, as production costs will reduce and product quality will be improved. The main obstacle in carrying out BMR in this sector is the weak credit rating of the small-scale units. Small-scale units in weaving and processing sectors are not able to avail normal credit facilities due to the low level of capital investment. BMR should be linked with the export performance of the unit and loans should be provided on the concessional mark up rate. To promote in-house manufacturing of the textile machinery, foreign investors should be invited to set up textile manufacturing units in collaboration with local investors.

Technology up-gradation of Power Loom sector

The Power Loom sector of Pakistan consists of approximately 225 hundred thousand conventional looms that need replacement. These looms can be replaced by automatic cop-change (Locally manufactured Auto looms) or imported shuttle less looms. In Pakistan there are eight renowned local manufacturers for automatic Cop-change looms, but there is no manufacturer for shuttle less looms.

Diversification of Export Destinations & Product Mix

Cotton Yarn and cotton Fabrics are the categories holding major share in Pakistan's textile exports. The other point of concern is that the destinations of Pakistani exports are mostly developed countries, which weakens the bargaining power of the Pakistani sellers. In order to compete in the free world, Pakistan has to change product mix and export destinations. Pakistan should move towards more value added items.

Cost Competitiveness

The spinning sector is operating under excess capacity. The local textile industry has not only been facing a downward demand trend in the international market, but also the increase in the cotton MMF, fuel power and mark-up rates have had a multiple effect on the cost competitiveness of the local textile industry. All the above costs are under direct control of the federal government. The Government should ensure that local industry is provided adequate protection to improve the cost competitiveness of the local industry.

Consistency in Government Policy

There have been some pressure groups in the textile industry, which influenced the Government policies in their favour and thus undermining the national interest. Many a times Government took a decision and then it was reversed on the demand of a strong group. Such lenient attitude of the Government has resulted in the delay of undertaking various structural changes which should have occurred some two decades ago, when our various regional trading partners had started converting their cotton based spindles and looms into blended and 100% MMF capacity.

Development of a market based strategy for the Pakistan Textile and Clothing Industry: Gherzi Textil Organisation

Spinning Sector

Spinning is the largest segment of the textile sector. This sector is responsible for the manufacturing of various types of natural as well as synthetic yarns. Weaving, knitting, and made-ups are the sectors, which are particularly dependent on this particular sector. Since early 80's the Spinning sector has been concentrating on low and medium count yarn. The biggest importer of Pakistani yarn has been Japan followed by Hong Kong and S. Korea. There has been increase in the domestic consumption of yarn. The consumption has risen by 88% from 1988 to 1992.

Problems Faced by the Spinning Sector

The spinning sector of Pakistan has shown inconsistent growth since the 80's. Some of the major factors are:

- a. Lack of Clear strategy by Spinning unit Owners
- b. Technology
- c. Small Unit size
- d. Cotton Quality (Ginning)
- e. Direct Contact with the Buyers
- f. Credibility (delivery on time/consistency in quality/R&D)

Lack of clear strategy

Rapid expansions were made to the existing spinning units in the early 80's without any clear direction. Decisions made by the management of these spinning units were not in-line with the global demands of yarn. This resulted in closure of many units due to lack of demand.

Technology

Machines installed were not capable of producing good quality yarn. Pakistani spinning sector has always concentrated on the coarse and medium count yarn, whereas the competing countries invested in the up-gradation of their machinery to meet the global demand of high-count yarn.

Small Unit size

The units installed were unable to meet the increasing demand in the global market for yarn because of their limited production capacity. This combined with obsolete machinery created a two-fold problem for the spinning sector.

Cotton Quality

The biggest problem for the spinning sector was the quality of cotton. Due to the primitive methods of cotton collection, the quality and constancy of cotton yarn is effected as it contains huge amounts of contamination.

Direct Contact with the Buyers

Marketing is another hurdle in the development and growth of this sector. Very few companies have their representatives in the foreign markets.

Credibility

Another important issue facing the spinning sector is that of its credibility. General Perception is that Pakistani yarn/companies lack quality, consistency, innovation and assurance of on time delivery, due to which Pakistani yarn is not the preferred choice.

Recommendations

To tackle the above-mentioned problems and other issues, the following suggestions are recommended for the revival and development of the spinning sector.

- a. Shift to the production of high quality/count yarn
- b. Companies should prepare strategic long term plans
- c. Invest in BMR techniques
- d. Spinning sector to become a direct exporter of high quality yarn.
- e. Supply high quality yarn to the local weavers and knitting units
- f. Increase overseas presence (through Embassies and Commercial offices)
- g. Long term fiscal policies
- h. Easy access to loans
- i. Training & Development (workers, management)
- j. Import of cotton suitable for the production of high quality yarn
- k. Production quality and efficiency needs to be raised to meet the international standards.
- l. Extensive training and development programs to be initiated for the workers to increase productivity and to develop new techniques for yarn production.

Presently, the entire textile sector/industry is suffering due to lack of communication between different stakeholders. The above mentioned objectives can only be achieved if there is a mutual understanding amongst farmers, ginners, spinning mills, knitting units, weavers processing and garment manufacturers.

Weaving & Processing

The weaving sector has its own share of problems. Although initially this sector excelled like the spinning sector but due to the policies adopted by the weavers, such as continuous production of low count fabric (coarse), and inability to modernise the units have lead to the decline in the profits and production of this sector.

From 1970's this sector has concentrated on the production of the coarse fabric rather than fine or super fine fabric. Whereas international demand trend changed from coarse fabric to fine dyed fabric. Due to the low quality of yarn, weavers were compelled to produce Grey cloth and printed fabric. The countries with demand for high quality fabric shifted to setting up their own processing/dyeing/finishing units.

Recommendations

To overcome these problems it is recommended that weaving sector should switch to the production of fine fabric which can fetch a higher price than that of Grey or printed fabric. The sector should invest in dyeing, processing and finishing units to add value to fabric.

Woven Garment Sector

Woven sector expanded immensely in early 80s. This has lead to a decline in the production quality of the garments. Government regulations and labour laws encouraged establishment of small units with contractual labour force. These are the prime reasons for the low price the Pakistani garments in the international markets. Other reasons are:

- a. No or little marketing knowledge
- b. Low prices lead to low quality
- c. Non-availability of quality fabric
- d. No variety of fabrics

Recommendations

- a. Enhance skills of the labour force
- b. Improve quality of raw material
- c. Implement standards
- d. Marketing

Knitted Garment Sector

Like the weaving sector, the knitted garment sector has been considered an ancillary of the spinning sector. This sector is largely fragmented and mostly faces the same problems as faced by the weaving sector i.e. low price realisation, poor quality, lack of international exposure, etc.

Other major problems hindering the knitting sector are:

- a. Low quality of yarn
- b. Lack of facilities for dyeing/processing/finishing
- c. Low prices
- d. Lack of designing skills

Recommendations

To increase the productivity of this particular sector, it is recommended to:

- a. Reduce the dependency on the buyers
- b. Innovate
- c. Focus on the potential customers/markets

Terry Towel Sector

Towel sector is one of the oldest segments of Pakistani Textile sector. Though this sector has been consistent in its development but still it is facing some challenges such as:

- a. Declining international demand.
- b. Low product quality
- c. Obsolete technology
- d. Management
- e. Understanding of the market needs

Not much effort has been made to keep this sector up-to-date with changing international trends. Another problem is the quality of yarn. Some of the towel manufactures have tried to overcome this problem by installing their own spinning units. Though Pakistan is the largest towel exporter but does not fetch a good price in global market.

Recommendations

Existing towel industry has the infrastructure to produce quality products. JVs with international companies can help in enhancing the image of this sector in the international market. This will not only increase the exposure of the industry but also will increase the understanding of international market. The Quality of yarn used should also be brought up in compliance with international standards.

Some of the other policy areas that bear direct or indirect effect on the overall Textile sector are Quotas, Fiscal, Economic, trade, infrastructure, import, and labour.

Pakistani entrepreneurs do not properly utilise the quota facilities. They do not realise the potential of switching to export of value added products, which with lesser volume fetch high values. Bureaucracy overshadows quota distribution process. Quota allocation should favour the exporters/manufacturers of the value-added products. This will compel producers of low quality products to switch to better quality products.

Training & development of labour force is crucial for any industry. A well-trained worker can produce better quality of yarn/fabric/garment. This lack of training also is the main cause for the underdeveloped designing and innovation side of the Textile sector. Pakistani Textile sector has, unlike its competitors (Hong Kong and China) not shifted to value added products.

Political instability and short-term fiscal policies have lead to a decline in buyer's confidence in Pakistani Companies. Until and unless long-term not politically driven policies are made, Pakistani economy as a whole will continue to suffer. Government of Pakistan should devise such policies that would enable foreign investors to invest in local units. Pakistani textile sector is scattered all over Pakistan. Some areas produce cotton, others have spinning mills and weaving and knitting units are installed in other locations. It is imperative to have an infrastructure that would make the transportation of raw material, yarn, or the finished products easier. Furthermore government should provide the basic facilities like water, sewerage, and electricity. Modify trade policies from time to time to incorporate the changes in the global trends. Labour laws should be revised keeping in mind the needs of the labour force. Labour policies should be made that discourage management from terminating employment.

Suggestions and Recommendations made by the JICA study on Pakistan Textile Industry - 1992

Quality

- a. Technical guidance on production and quality control and equipment maintenance through technology transfer programs
- b. Problems arising out of production control, quality control and equipment maintenance need to be rectified through retaining of the middle management and standardisation of inspection technology and evaluation of product quality by factory
- c. Promotion and establishment of Pakistan Standard and Quality control authority.

Structure of Mid-stream

The out dated production facilities, low productivity and high production costs due to small scale operations can be reduced through financing schemes for facility modernisations and for the grouping of operations.

Raw Cotton

The problems relating to the quality of raw cotton present major obstacles to the development of the textile industry in Pakistan.

The following measures need to be taken to improve the quality of raw cotton, bearing the PCSI proposals in mind. Major problems with raw cotton are

- a. Unripe cotton content.
- b. High impurity content
- c. High leaf trash content
- d. Excess moisture content
- e. Large number of damaged fibres
- f. Differences in dyeing fastness within the same lots

Recommended measures

- a. Reinforcement of training given to pickers
- b. Improvement in the system of payment by picking yield (giving emphasis to yield by grade instead of by weight)
- c. Grade instead of by weight
- d. Prohibit early picking
- e. Carry out improvements in the methods of transport and ginning.
- f. Modify the transport of cotton plants and change the packing materials for cotton wool (change over from jute to cotton cloth)
- g. Forbid the mixing of cotton by brokers (modify the shipping system)
- h. Replace the ginning equipment being used
- i. Diffuse systems for standardising and grading cotton wool
- j. Establish quality evaluations and grading of actual cotton plants and cotton wool
- k. Implement purchase price ranking according to grades
- l. Promote the training of classers
- m. Strengthen the feedback concerning requests for improvement in product quality from the textile processing firms to the raw cotton suppliers.

Spinning Sector

The quality of the yarn needs to be improved through the up-gradation of production technology, especially maintenance technology and the selection of machine speeds, which are adapted to the facilities, machinery, and technical levels available (Product quality and production output are impaired by excessively fast machine speeds).

Poor provision and maintenance of equipment can be dealt with by improving awareness of importance of equipment maintenance, installation of maintenance equipment and its effective use, implementation of preventive maintenance, spindle management, and parts management. (Upgrade the technology for provision and maintenance of equipment train and re-enforce maintenance staff)

Maintenance of cards is not carried out

- a To improve the precision of card grinders, replace superannuated grinders
- b Appropriate wheelstones need to be chosen
- c The technology for grinding a gauge centering needs to be upgraded

Management of draft rollers is not carried out

- a In order to improve this situation, improvement in precision of roller grinders and replacement of superannuated grinders is carried out.
- b Methods of inspecting of grinder shaft centering needs to be improved
- c Appropriate schedule for greasing of bearings to be determined
- d Overheated bearings need to be checked
- e Improvement in technology for roller surface treatment and replacement of superannuated equipment is required.

Critical problems in each process stage are left unattended

To improve this situation managerial awareness of managers need to be improved and processing problems need to be tackled at an early stage

Quality control is not implemented

- a Improvement is required in the level of basic quality control technology
- b Importance given to technology needs to be increased.

Weaving Sector

Mill Sector

Equipment is getting outdated

Promote investments to modernise equipment (particularly the changeover to shuttle-less machinery needs to be encouraged)

Defects in the quality of the weaver's beam

The technology of preparatory processing needs to be Up-graded by implementing provisioning of warpers and sizers, improving sizing technology, and change the softening lubricating oil (oil agent).

Defective quality of produced fabric

- Up gradation is required in the preparation and adjustment in technology for looms
- Improve the quality of auxiliary fittings and parts.
- Carry out appropriate inspections of produced fabric
- Undertake amelioration based on the inspection results (implement quality control)

Shortage of weaving engineers

Nurture mid-ranking technicians and engineers through training and instruction.

Quality control is not carried out

Improve awareness and concern for quality control and implement training in quality control

Non-Mill Sector**Foundations of industrial management are weak**

Greater concentration and co-operative management between firms needs to be promoted

Equipment is becoming obsolete

- Promote investment to modernise equipment (particularly a change over to shuttle-less looms)
- Undertake renovation of equipment (attachment of stop motion devices for yarn breakage)

Defects in the quality of the weaver's beam

Improvement and replacement of equipment in the preparing shops. Replace the warping creels (with H models), attach automatic stop devices for end breakage, provide instruction in warping and sizing technology to warping firms, improve the quality of softening agent (oil) and improve the packing and transport methods for raw yarn and beam.

Defective quality of produced fabric

- Implement maintenance of equipment
- Employ accessory parts of good quality
- Implement appropriate inspections of manufactured cloth and establish production management system based on the inspection results.
- Set-up common inspection centres

Technical levels are low

Establish instructional and training institutes to re-enforce the technical supervision of mill firms.

Knitwear Sector***Knitting process***

- a Defective quality of raw yarn
- b Improve the packing methods for the cheese
- c Use packing cases for carriage and prevent damage to yarn and paper tube
- d Set up and diffuse standards of raw yarn to be used for knitting

Limited types of raw yarn available

- a Request a supply of high-grade yarn from the spinning sector, fine count thread (above 30), twisted double yarn (40/2,60/2 etc.).
- b Use of yarn dyed fabric, installation of yarn-dyeing equipment.

No quality control for knitted fabric

Perform appropriate inspection of knitted fabrics and take collective actions in the knitting process upon the inspection results.

Shortage of knitting engineers

Reinforce the training facilities and train knitting engineers

Dyeing processing

Low quality of the finished product, considerable shrinkage rate at washing, insufficient colour-fastness, and not lustre typical cotton

- a Change dyeing machinery and dyeing methods (dyeing at conditions of low tension)
- b Jet dyeing machine instead rather than winch dyeing machines are required, changeover of drying method (to correct the stretch deformation occurring in dyeing)
- c Either tumbler (batch system) or net conveyor dryer is recommended

- d A heat setter is needed for mixed cotton polyester fabrics, and employ spinning mercerisation.
- e Either soften the water for dyeing use or use de-ioniser.

Dyeing stains and uneven dyeing

Improve production technology (including the control of the conditions of production such as temperature, concentrations, flow rates, pressures, etc.)

Shortage of dyeing engineers

Strengthen training facilities

Quality control is not implemented

Implement inspections of dyed fabrics and take actions to improve processing on the basis of inspection results

Dyeing sector

The equipment is out of date

Promote investment aimed at modernisation and automation of the important parts of the processing equipment

Product quality levels are low, uneven dyeing and disparities in dyeing between lots frequently occur, and colours have no lustre

- Upgrade technology, render the control of dyes and chemical more appropriate.
- Improve colour-adjusting technology
- Improve systems for preliminary inspection of materials (fabrics)
- Improve the water used for processing, and employ mercerisation

Need for the up gradation of technical and managerial levels of dyeing engineers

Retain mid-ranking engineers and executives, and give emphasis to acquisition of technical expertise on the work site and set up training systems for recruited engineers.

Garment Sector

Mass production technology is not established

- Standardise operations and manufacture product of even quality
- Carry out appropriate processing design and equipment layout on the basis of process analysis, ordering of process steps, and measurement of standard times for each product line.
- Improve and standardise processing on the basis of analysis of operations, and implement training of operators to increase their knowledge and understanding in finished products.

Product quality levels are low

- Upgrade the basic production of technology of patterning, cutting, sewing and finishing
- Use blank materials of high quality, increase the variety of blank materials used such as woven clothes of fine count, plain dyed cloth etc., increase the brightly coloured materials. Use accessory items of good quality (buttons, lining, etc.) of good quality, encourage and increase exchanges and contact concerning design and technology with overseas bodies.

Maintenance and supervision of equipment is insufficient

- Implement daily checks of equipment and servicing operations.
- Shortage of well trained personnel in technology and management
- Trained engineers are required who can plan process design and production schedules

Recommended Policies***Improvement in import environment for raw materials***

Most fabrics and some garment parts are currently classified as import-negative items. Custom duty on these goods is relatively high (80-90%), and thus should be reduced. This would mean greater scope for garment makers in the choice of materials, matter of particular importance to the industry

The volume of imports permitted under the Raw Materials Replenishment System (RMR) should be increased. This would enable garment manufacturers to always have the necessary raw material required for the next scheduled production

Open bonded system accessible to outside vendors to be introduced

- a Domestic sales should be permitted so long as import duties and other taxes are paid and the value of sales does not exceed a fixed percentage of the total value of production.
- b Sales tax and import surcharges, and Iqra surcharges should be exempted along with customs duty.
- c Raw material imports should be permitted not only by the production units but also by commercial importers.

Liberalisation of garment imports

- d Import system of machinery and parts
- e Reduction in import duties on machinery and their parts is necessary. With the exception of spinning machinery, import of textile machinery which is not manufactured locally is currently exempted from customs duty in actuality under SRO-597

Tax exemption on export income

Such incentives should be discontinued on cotton yarn as it has already achieved international competitiveness and abolishing the tax incentives will promote the supply of cotton yarn to high value added sectors.

Central excise duty

- f Spinning mills are obliged to pay the CED on cotton yarn before the shipment to domestic market. Export duty, on the other hand, is payable after shipment is made.
- g The fact that taxes on exports are due later than those on products for the domestic market places the former in an advantageous position in terms of interest payment.

Adoption of incentives for supporting industries

Incentives such as refund of duties paid on imported raw materials and exemption from the domestic sales tax should be given.

Marketing of Apparel

- a Focus on E.C and the USA Markets
- b The existing share in the E.C and USA lower-end markets should be increased and mass production markets should be entered through the development of distinctiveness in its products

Explore the Japanese Market

Efforts should be made to break into the Japanese lower end markets. The Japanese market has no quota restrictions in place but demands high quality.

Investment Environment

- a Commercial counselors should promote investment.
- b Dollar shops should be established.

Information supply

One of the Government organisations should be responsible for gathering rules and regulations relating to investment and trade making it available to investors and therefore comprehensive handbook should be compiled.

Finance system

Low interest financing, needs to be provided for investment in plant and equipment particularly for dyeing and power-loom sector

Textile policy planning unit

- a A textile policy-planning unit should be established within the ministry of industries. It should gather data on imports and exports, investment, finance, taxation and industrial locations through conducting surveys and planning for industrial promotion and the formulation of policies. It should also have branches elsewhere in the country.
- b Reorganisation and strengthening of links between organisations involved with standardisation and quality control.

Promotion of raw cotton grading and establishment of a graded price structure

- a It is necessary to have a system of grading of raw cotton by PCSI, and a system of pricing based on these grades be promoted nation-wide
- b Standardisation of product specifications and inspection criteria
- c A uniform series of inspection standards should be established and promoted as soon as possible. Experiences of other countries in similar efforts should be studied.

Effective approach to R&D***Direction for Human Resource Development***

- a The number of middle management should be increased and basic education should be improved.
- b Systems for technical instruction and personnel training should be reinforced.
- c Salaries of instructors should be reviewed. There should be improvement in facilities and equipment provided to educational and training institutes. Technical experts from all over the world should be invited for this purpose.

Technical Instruction and Personnel Training

- a Engineers and technicians working in the spinning, weaving and dyeing industries should be upgraded.
- b Non-Mill Sector weaving firms and related processing industries should be technically trained.
- c Personnel development for garment industry should take place.

Training programs for women

Ensure greater access for women to the textile training and educational programmes with a focus in areas such as fashion designing, knitting and sewing techniques, etc. and a new Garment Training Center for women should be established.

Minutes of Meetings

Staple Fibre, Filament Yarn and Man Made Fabric Group

Subject: Textile Vision 2005
Date: Feb 24, 2000
Venue: FTC Building Karachi

Participants

Tariq Sayeed Saigol (Chairman Textile Sub-Committee)

Industry Representatives

Azhar Malik	(ICI Pakistan)
Ahmed Ebrahim	(Pakistan Synthetics)
M.H.K. Burney	(Synthetic Filament Yarn Manufacturers Association)
Sami Ahmed	(Fyma and Sind Industries)
Razak Diwan	(Gatron Industries Ltd)
Sohail Ahmed	(S. G. Fibers Ltd)
Abdul Razak Telli	(Quota Supervisory Council)
Asif Aziz	(MHG Group of Companies)
Khalid Amin	
Gulzar Sadiq	

Government Representatives

Dr. Salman Shah	(SMEDA)
Asir Manzur	(SMEDA)
K. K. Suri	(EPB)
M. Idrees Ahmed	(TCO)
Sohail Moghal	(SMEDA)
Atif Malik	(SMEDA)
Ausaf Ali	(TCO)

Issues Discussed

Raw Material

- Polyester is the major fibre that is used in Pakistan, acrylic and nylon are used in lower volumes
- Unavailability of filament yarn on international prices
- PTA basic raw material for yarn production is protected. Duty rate is 15% ad valorem, factor that increases the cost of production
- Man made fabric manufacturers were of the view that the protection of the synthetic fibre industry has made them un-competitive. Raw materials are available at high prices.

Technology

- Quality of locally manufactured fabric is poor. Competitors manufacturing similar fabric have a far better quality. Important factor is the obsolete looms used by the local industry.
- Art silk fabric manufacturers are the major users of polyester yarn. The sector has 40,000 power looms, which can only achieve certain level of fabric quality

- c. Competitors such as Indonesia, Korea, produce man made fabric on water jet looms
- d. Huge investment is required in this sector to up-grade the existing looms to water jet
- e. Another factor, which was identified, is the shift of organised sector from weaving filament fabrics to the manufacturing of filament yarn. This stagnated the growth and introduction of modern technology (looms)

Government Agencies/Departments and Regulations

- a. The fabric manufacturers expressed their concern regarding the duty on import of synthetic yarn which is 40% ad-valorem, high level of protection is given to the local yarn manufacturers
- b. Smuggling is the major problem impeding the growth of man made fibre industry in Pakistan
- c. 35% duty on import of man made grey fabric. The fabric is imported at a much lower value (under invoicing) which makes the local manufacturers un-competitive
- d. Besides under invoicing, the fabric is also imported under bonding schemes (no duty no drawback) for re-export purposes but it is sold in the local market
- e. The man made fibre manufacturers were of the view that this industry is of critical importance and to develop the textile sector the Govt will have to keep it protected e.g. India and USA. Tariff on PTA is 22% in the USA
- f. The fabric manufacturers were of the opinion that similar level of protection should be provided to the weavers. Imports of grey fabric should be banned
- g. Almost all the industry stakeholders were of the view that the Govt should have a proactive approach in representing Pakistan on the issues such as anti dumping laws and countervailing duties, in the context of man made fibres/fabrics
- h. It was also expressed that the process of duty free import of machinery should be further simplified (SRO 27)

Finance

- a. There was a consensus on the issue of quality of the fabric. The industry stakeholders believed that the weavers should be facilitated through a mechanism to up-grade technology. The equipment (Water Jet looms) is expensive and the small scale weavers (power looms) don't have the muscle to upgrade
- b. It was also mentioned that there was a proposal during 1985 to import looms through a separate fund which was never implemented

Human Resource

- a. The stakeholders said that human resource is not a big problem for the industry. The industry is capital intensive
- b. The major problem related to human resource was the presence of too many Govt agencies, EOBI, Social Security, etc due to which the industrialist face problems
- c. It was recommended by the industrialists that the one window operation for collecting the labour levies should be given serious consideration

Chemical and Dyes Manufacturers

Subject: Textile Vision 2005
Date: Feb 24, 2000
Venue: FTC Building Karachi

Participants

Tariq Sayeed Saigol (Chairman Textile Sub-Committee)

Industry Representatives

A. Shakoor Khatri	(Chairman Dye Stuff Manufacturer Association)
Abdul Aziz	(Chemical Dyestuff Industries Pvt. Ltd)
Shahid Mahmood	(Clariant Pakistan Ltd)
Sardar Ayaz Sadiq	(Sardar Chemical Industries Ltd)
Bashir Makki	(ICI Pakistan Ltd)
Kaleemuddin Ahmed	(Shaffi Reso Chemicals)
Mr. Wajid Jawad	(Associated Industries)

Government Representatives

Asir Manzur	(SMEDA)
K. K. Suri	(EPB)
M. Idrees Ahmed	(TCO)
Sohail Moghal	(SMEDA)
Atif Malik	(SMEDA)
Ausaf Ali	(TCO)

Issues Discussed

Raw Material

- Most of the raw materials used by the chemicals and dyes manufacturers are obtained by naphtha cracking process
- All the inputs for the industry are imported. The duty rate is 10% for the dyes stuff manufacturers

Technology

- The basic raw materials for the dyes stuff manufacturers cannot be manufactured locally. The naphtha-cracking process is highly capital intensive and Pakistan does not have any competitive advantage

Government Agencies/Departments and Regulations

- The chemicals and dyes stuff manufacturers were of the opinion that the import of basic raw materials for their industry should be at zero-rated duty
- They also said that the import duty for the finished products (Dyes) can be reduced from 25% to 15% provided the basic raw materials are duty free
- The imports of dyes from India is hurting the industry as under a special agreement with SAARC countries (India) the dyes can be imported at a further discount of 10% on the custom duty. (25% is the duty rate otherwise)
- The dye manufacturers also stressed the need for a regulation making it mandatory for imports of dyes from India to have a certificate ensuring that the dyes are AZO free. Currently the dyes are being imported without any certification
- Another point discussed, was the misuse of bonding schemes under which dyes are imported duty free for export purposes and then sold in the local market which is hurting the industry

Human Resource/Training

- The industry representatives stressed the need to restructure the existing textile education/training institutes
- The multinationals (ICI and Clariant) showed their willingness to collaborate with the industry in upgrading the skills and further their support in areas such as process improvement and product development

Decisions

Dyes stuff and chemical manufacturers agreed to provide the textile sub-committee with the details about the total imports of all the items (chemicals and dyestuff) including the raw materials (dyes) used by the processors. The details will include the revenue earned by CBR as a result of these imports and a synopsis of a situation if the duty rates are reduced

Weaving & Processing Sector

Subject: Textile Vision-2005
Date: February 12, 2000
Venue: FTC Building Karachi

Participants

Mr. Tariq Sayeed Saigol Chairman Textile Sub-Committee

Industry Representatives

Mr. Iqbal Ibrahim,	Al Karam Textiles, Karachi
Mr. G. R. Arshad,	Chairman All Pakistan Textile Processing Mills
Association Karachi	
Mr. Zubair Motiwala,	Diamond Textile Karachi
Mr. Sikandar Imran,	M..M. Silk Mills Karachi
Mr. Anwer Aziz,	Iqbal Silk Mills Karachi
Mr. Farooq Sumar,	Muhammad Farooq Textiles Karachi
Mr. Bashir Ali Mohammad,	Gul Ahmed Textiles
Mr. Wajid Jawad,	Associated Textiles

Government Representatives

Dr. Salman Shah,	SMEDA
Mr. Asir Manzur,	SMEDA
Mr. Muhammad Idrees Ahmad,	TCO
Mr. K. K. Suri,	EPB
Mr. Atif Malik,	SMEDA
Mr. Sohail Moghal,	SMEDA
Mr. Mohammad Nazir	TCO
Mr. Ausaf Ahmed,	TCO

Mr. Tariq Sayeed Saigol opened the meeting. He explained the Government's vision for Pakistan's Textile sector for the year 2005 vis-à-vis its competitors. He also briefed the participants about the working template for the exercise. SMEDA presented brief statistics about fabric exports of Pakistan.

Issues discussed**Technology/Production/Quality**

- In the entire textile value chain, dyeing, finishing and processing is the weakest area in terms of technology and expertise.
- Weaving industry has backward technology. Majority of the industry is composed of power looms and second hand Sulzer shuttle-less looms. The cloth made on these fabrics has quality problems.
- Vertically integrated units are not suited to meet the international requirements and their number is becoming smaller in Pakistan. More commercial specialised processors are required in the industry.
- Presently, about 40% of the fabric is being exported in grey form. Ideally, no fabric should be exported from Pakistan without processing.
- The garment manufacturer is unwilling to pay the price for the quality demanded by him. To keep the cost of the dyeing/finishing lower for the garment manufacturer, the processor has to compromise on quality.
- The availability of utilities is a problem for the processing industry, especially for the industry situated in Karachi. Electric power is not available in the required quantity. Frequent power failures further compound the problems. Natural gas is not supplied at the international prices.

- Water is a great problem for the processors both in terms of its quantity and quality. Due to the bad water quality, the desired level of dyeing and finishing cannot be achieved. To increase exports, the problems associated with utilities must be resolved. The industry is operating at 50% capacity due to such problems.
- g. Processing industry is also suffering from high inefficiencies. Wastage may be as high as 50% in certain processes. Switchover time to new designs, colours etc. is high compared to the competitors. Variations in the final dyed/finished products are high.
 - h. The spinning sector is technologically good while investments are required in weaving and finishing/processing sectors.
 - i. Informal sector should be supported through forming a co-operative and providing manufacturing facilities equipped with the latest technology in a common shed. Such facilities should be provided in all the major industrial cities.
 - j. Contamination in the Pakistani cotton is the one of the major problems. Using better picking techniques and modernising the ginning facilities can lead to improvement of the entire cotton value chain.

Marketing

- a. The unit price realisation of textile products in the international markets is one of the lowest for Pakistan.
- b. Pakistani exporters should target the non-quota markets since quota markets are already captured and also due to the fact that prices in quota markets have decreased by 15-20%.
- c. The role of commercial counsellors should be improved. India has hired its commercial counsellors on commission basis. They get a certain percentage of the business they hold for India and this approach has been successful. Pakistan can also follow the same approach.
- d. Another marketing focus should be on the large Pakistani importers in the importing countries. Presently, these importers are apprehensive of importing from Pakistan due to the bad image and bad quality of the Pakistani products. These importers should be targeted and the problems due to which they do not import from Pakistan's should be resolved.
- e. Internal competition between the Pakistani manufacturers and exporters using price-cutting is hurting the overall export earnings of the country.

Human Resource

- a. Quality middle management is almost non-existent in the textile sector. The persons employed by majority of the mills do not possess proper communication and management skills.
- b. One of the suggestions to improve the poor human resource base is to identify 6-8 leading companies in each sector and call in consultants with a complete package. Those consultants should guide the selected companies for their uplifting in all the functional areas. This venture should be started as a public-private partnership in which the industry should pay for half of this. This approach will have a trickle down effect towards the medium and smaller players and ultimately lead to improvement of the entire industry.
- c. Labour laws are a problem in Pakistan. It is very difficult to replace an unwilling worker by a willing worker. This results in an inefficient labour force ultimately leading to inferior quality goods exported from Pakistan.

Regulations

- a. The deregulated environment is also affecting the quality of the goods supplied from Pakistan. In Pakistan, anybody can become exporter of anything, due to which inferior products are shipped. The exporters should be encouraged to get ISO 9000 certification so as to put pressure on them to improve the quality.
- b. The illegal exports to markets like Iran should be properly channelled as it is being done through 'Hundi' that is not benefiting the country.
- c. Exports of filament fabrics from Pakistan have not taken off. This is due to high protection given to the filament yarn industry. There is no cascading of duties for filament. There is 35% duty each for filament yarn, filament fabric and filament finished products. This is due to a cartel situation

- existing between the filament yarn producers. Filament yarn should be available at international prices.
- d. Export quality of the Pakistani products has suffered by changing the quota policy from value-based to quantity-based. A rational quota policy should be enforced.

Weaving/Processing Sector

Subject: Textile Vision-2005
Date: February 19, 2000
Venue: SMEDA, Lahore

Participants

Mr. Tariq Sayeed Saigol, Chairman Textile Sub-Committee

Industry Representatives

Mr. Jamshaid Amin,	All Pakistan Small Power Looms Association
Mr. Sheikh Muhammad Ayub,	All Pakistan Textile Processing Mills Association
Mr. Lala Abdul Qayyum,	All Pakistan Textile Processing Mills Association
Mr. Haji Muhammad Sharif,	All Pakistan Small Power Looms Association
Mr. Amir Fayyaz,	Kohinoor Weaving Mills
Mr. Shaukat Ellahi Shaikh,	Nagina Group
Mr. Daniyal B. Ali,	Samin Textiles
Mr. Shahid Siraj,	Ali Industries (APCEA)
Mr. Abdul Haq,	All Pakistan Power Looms Association
Mr. Muhammad Akram Ghouri,	All Pakistan Power Looms Association
Rana Akhlaq Ahmad,	All Pakistan Power Looms Association

Government Representatives

Dr. Salman Shah,	SMEDA
Mr. Asir Manzur,	SMEDA
Mr. Muhammad Idrees Ahmad,	TCO
Mr. Atif Malik,	SMEDA
Mr. Sohail Moghal,	SMEDA
Mr. Ausaf Ahmed,	TCO's Department

The meeting was opened by Mr. Tariq Sayeed Saigol. He explained the Government's vision for Pakistan's Textile sector for the year 2005 vis-à-vis its competitors. He also briefed the participants about the working template for the exercise. SMEDA presented brief statistics about global fabrics markets and fabrics exports of Pakistan.

Issues discussed**Technology/Production/Quality**

- Informal weaving sector comprising of Power/Auto looms is the major part of the sector and should be given due importance.
- In the 'informal sector, of the total 234,000 looms, only 30,000 are auto looms (approx.) and all the rest are power looms. The quality of fabric can be improved by replacing power looms with auto looms. It is very difficult for the informal sector to go straight to shuttle-less looms.
- Yarn availability at reasonable prices is a problem for weaving sector, especially for the informal sector. Sometimes, yarn is not available at all to the small manufacturers.
- Power looms sector is also important in respect of consuming low quality yarn produced on open-ended machines.
- In the area of synthetic fabrics, there is a trend in the industry towards water jet looms since the improved fabric quality can be achieved by adopting this technology.
- In the processing area, printing facilities have developed in Pakistan but the dyeing facilities did not develop at the same pace.

Marketing

- a. The fabrics made in the formal and informal sectors both have their own markets and both of them should be promoted. We should not aim at replacing the exports of power loom fabric by shuttle-less fabric.
- b. Access to market information to the Pakistan Textile industry should be facilitated by the Government, so that exporters do not sell at low prices due to lack of information.
- c. Commercial Counselors of Pakistan should play a more active role for export promotion and building image of Pakistani products in the international markets.
- d. Exports of synthetic fabrics from Pakistan can be increased by providing raw material at competitive prices.

Human Resource

- a. Enough skilled manpower is not available for running shuttle-less machines in the informal sector.
- b. In the processing industry, especially in dyeing, there is a need for skill development.

Regulations/Infrastructure/Information

- a. It is very difficult for the Pakistani weaver and processor to be competitive internationally due to high utility costs and high taxes. Many processing units have been closed due to such problems.
- b. Joint ventures in Textile should be attracted by proper regulatory incentives as has been done in Bangladesh.
- c. The incentive package for different sub-sectors of Textile should be cascaded in accordance with the value-addition.
- d. Pakistani exports in the synthetics sector are not growing due to a protected domestic industry. High import duties on synthetic fabrics are leading to problems like under-invoicing and smuggling. Some companies are misusing the facility of importing duty free synthetic fabrics for re-export purpose, since the processed fabric is not being re-exported and is being sold in the local market.
- e. Availability of data on the amount of yarn consumed, fabric produced and fabric exported from the informal and formal sector needs to be found and analysed in order to have an exact picture of the sector. Different associations of fabric manufacturers and exporters need to provide their inputs for compilation of this data.

Finance

- a. Informal weaving sector should be supported for technology up-gradation from power looms to auto looms through a micro credit scheme.
- b. Major part of the processing industry is self-financed. Financing should be made available in order to achieve the required growth.

Bedwear/Made-Ups Sector

Subject: Textile Vision-2005

Date: February 18, 2000

Venue: SMEDA, Lahore

Participants

Mr. Tariq Sayeed Saigol, Chairman Textile Sub-Committee

Industry Representatives

Mian Muhammad Latif, Chenab Fabrics, Faisalabad
Mr. Muhammad Ahsan, All Pakistan Bedsheets & Upholstry Manufacturers Association
Mr. Ali Hussain, All Pakistan Bedsheets & Upholstry Manufacturers Association

Government Representatives

Mr. Asir Manzur, SMEDA
Mr. Muhammad Idrees Ahmad, TCO
Mr. Atif Malik, SMEDA
Mr. Sohail Moghal, SMEDA
Mr. Ausaf Ahmed, TCO

The meeting was opened by Mr. Tariq Sayeed Saigol. He explained the Government's vision for Pakistan's Textile sector for the year 2005 vis-à-vis its competitors. He also briefed the participants about the working template for the exercise. SMEDA presented brief statistics about bedwear/made-ups exports of Pakistan.

Issues discussed

Technology/Production/Quality

- a. Bedwear sector started operations through utilising the inexpensive fabric of wider width made on power looms. Some of the manufacturers managed to move into the high value-added segments.
- b. Contaminated yarn is one of the major problems due to which industry has not been able to move into high value-added products. Improvement in weaving and processing alone cannot improve the industry until the problem of contamination is solved.
- c. Quality control can be achieved only in a vertically integrated unit since the commercial manufacturers are not geared for making quality.
- d. In the bedwear sector, processing is the major area that needs improvement.

Marketing

- a. Internal competition between the Pakistani manufacturers and exporters is hurting the industry and bringing down the unit price.
- b. In the international markets, Pakistan has the perception of a supplier of cheaper products. This perception needs to be changed.
- c. Moving into value-added products is mandatory for the Pakistan industry since Pakistan is becoming more and more non-competitive in the lower product range. Moreover, margins are also higher in high value-added products.
- d. Pakistani manufacturers and exporters should be pro-active marketers. Design and development capability should be established/improved. Own designs should be developed and sold to the customers rather than waiting for the orders from them.

- e Participation of Pakistan in the international trade exhibitions should be improved. The stalls of the Pakistani participants in the exhibitions are very small and poorly presented which actually hurt the image of the country rather than building it. Compared to this, competitors like India and China display their products very professionally.
- f Commercial exporters export whatsoever product is available irrespective of the quality. Such sub-standard products hurt the country's image very badly.
- g Delivery and reliability is a major factor for the international buyers.

Human Resource

1. Labour cost in Pakistan, when evaluated in productivity terms, is higher as compared to its competitors.
2. Quality human resource is not available to the industry.
3. Training Institutes of Textile need revamping.

Regulations/Infrastructure

1. Smaller industry needs to be organised so as to improve the quality of the products supplied by it.
2. Sales tax refunds and duty drawbacks take long time to come back to exporter which creates cash flow problems for them.
3. The scheme of Export Processing Units was announced in the past but not implemented. This scheme needs to be revived.
4. Non tariff trade barriers like ISO 9000/14000, child labour etc. are going to be effective in the times to come and Pakistan should be well prepared to deal with this situation.

Finance

1. After problems in DFIs, long term financing is not available to the industry. It should be made available, especially to the processing industry.
2. According to an estimate, about 10% of the total investment in Textile sector is required for BMR of the industry.
3. Majority of the industry in Faisalabad is self-financed. They should have access to credit on easy terms.

Bedwear/Made-ups Sector

Subject: Textile Vision 2005

Date: Feb 23, 2000

Venue: FTC Building Karachi

Participants

Tariq Sayeed Saigol Chairman Textile Sub-Committee

Industry Representatives

Naseem Sattar

Abdul Razak Telli Quota Supervisory Council

Wajid Jawad

Shabir Ahmed

Government Representatives

Dr. Salman Shah SMEDA

Asir Manzur SMEDA

K. K. Suri EPB

M. Idrees Ahmed TCO

Sohail Moghal SMEDA

Atif Malik SMEDA

R. H. Zuhair TCO

Ausaf Ali TCO

Issues Discussed

Raw Material

Cotton contamination is considered to be a major hindrance by the exporters to fetch better prices for their product

The exporters of bedwear and made-ups stressed the need to implement quality standards for cotton, which will help in eliminating contamination in yarn to a great extent

Technology

1. Major technology issue discussed was related to dyeing/finishing in Pakistan. The industrialists expressed their concern that the processing industry has a capacity constraint and also they don't have any facilities to dye short runs (not viable for the commercial dyers)

They suggested that the Government can help the industrialists in backward as well as forward integration of the industries. A cascaded system of credit could be adopted, lower interest rates for forward integration and higher rates for backward integration based on the value addition philosophy should be offered.

Government Agencies/Departments and Regulations

1. The stakeholders in general were satisfied with the existing system of rebates and drawbacks
2. The bedwear manufacturers expressed the need to set-up a one window operation to collect all the labour levies on the industry

Finance

1. The bedwear manufacturers were of the opinion that Government should develop a mechanism to provide term finance to the exporters

2. The term finance availability could be linked with the export performance, in a similar fashion as the Export Refinance Scheme. According to the information provided by one of the industrialist, currently 50% of the total exports in a year is the limit of Export Refinance that can be availed. In a similar fashion a strategy should be devised to provide a fixed percentage of exports as the term credit to the exporter for BMR, at the same interest rate as Export Refinance. Further the term credit provided should be linked with a export target to be achieved by the exporter (Could be set as double the value of amount provided as credit)
3. Another interesting point discussed was the availability of Export Refinance on a cascaded system of interest rates. Value added products should be given working capital on a lower interest rate as compared to the low value added sector.

Human Resource

1. Dyeing and finishing is the area where the stakeholders felt that there is need to provide quality training
2. Existing institutes can be up-graded to provide the industry with the desired quality of workforce

Marketing

1. Pakistani products are perceived to be low quality by the international buyers
2. Marketing of the products is considered to be a major problem by the exporters
3. Exporters were of the opinion that Pakistan should be represented very effectively in all the major textile (bedwear) events in the world. The trade fair subsidy programme of EBP should be provided to an exporter on 3-year basis and the level of subsidy should be reduced each year. (phasing out of subsidy)
4. Exporters and manufacturers also felt that the Government should make a concentrated effort to uplift the image of Pakistan. Government should run counter media campaigns wherever necessary.

Towels & Industrial Textiles Manufacturers and Exporters

Subject: Textile Vision 2005

Date: Feb 11, 2000

Venue: FTC Building Karachi

Participants

Tariq Sayeed Saigol Chairman Textile Sub-Committee

Industry Representatives

S.M. Obaid Towellers Ltd
Syed Usman Ali Silver Textile Factory
S.M.A. Rizvi Pakistan Towel Manufacturers Association
Waqar Alam Pearl Fabrics
Abdur Rehman Rehman & Rehman

Government Representatives

Dr. Salman Shah SMEDA
Asir Manzur SMEDA
M. Idrees Ahmed TCO
Sohail Moghal SMEDA
Atif Malik SMEDA
Zara Khan SMEDA
K. K. Suri EPB
Muhammad Nazir TCO

Issues Discussed

Raw Material

- a The coarse count cotton yarn used to manufacture towels is contaminated. Sometimes the contamination comprises of polyester yarn and this can only be controlled at the spinning stage. The spinners do not follow any standards and the responsibility is passed on to the ginners and cotton pickers.
- b Towel manufacturers were of the view the raw materials (cotton yarn) should be available in the country at international prices. Entrepreneurs should be allowed to import yarn from any place they desire. There is need to rationalise the duty structure on raw materials used.

Technology

- a Switch to higher value added towel products requires the up-gradation of technology. The current technology used by the industry is fifty years old. Latest machines (shuttle-less looms) are used to produce high quality towels.
- b Government should provide loans under schemes such as Locally Manufactured Machinery (LMM) facility. This will not only support the local engineering industry but also help in developing the towel products. Currently there are 4500-5000 looms in the towel industry, majority is that of locally manufactured power looms.
- c The industry also faces problems in the dyeing process, some of these problems arise due to technology constraints and some due to unavailability of basic facilities.

Infra-Structure

- a The Karachi cluster of Towel manufacturers faces the problem of lack of water supply, which is a big problem in the dyeing process. Tanker water is of poor quality, desired results in dyeing cannot be achieved.
- b The basic infrastructure, roads, drainage, utilities, is not available to the industry. In the absence of such facilities, the industry is unable to compete. It becomes difficult for the exporters to invite foreign buyers to visit their facility.

Government Agencies/Departments and Regulations

- a There are Sixty-two (62) different Govt. Agencies, which exploit the industrialists.
- b Contributions by the industrialist to Government departments such as Employees Old Age Benefit Institution (EOBI), Social Security, be simplified by providing one window operation/facility. A formula can also be worked out to get a lump sum amount for these levies from the industry.
- c Rent seeking should be discouraged and checked by the Government. Certain lobbies in the textile sector get concessions from the Govt., which are counter productive for the other players in the value chain.
- d Policies formulated by involving the industry stakeholders are also not implemented. Several studies conducted in the past never got through to reach implementation. e.g., JICA study, Gherzi report, etc.
- e Import of raw materials is a problem. Delays to get the shipment released, cumbersome procedures and formalities all add up to waste of time. One of the industrialist also quoted that even in a country like Srilanka, the shipment is released in 4-hours from the port, whereas in Pakistan it varies between 1-2 weeks.
- f Law and order situation in the country has destroyed the image of the country since it is on the travel advisory list of USA/EU.

Marketing

- a Unit price realisation of Pakistan towel products is low in the world
- b Pakistani products are perceived to be of low quality by the buyers. Same product of other countries gets a better price
- c Another reason of low price realisation is the presence of Pakistan in the low value segment. Some of this is due to technology constraints
- d There is lack of support and effort on the part of Government to promote Pakistan and its products globally. Commercial offices can play important role in the process, as is the case in India.
- e Representatives of Buyers hesitate to come to Pakistan. Other markets such as India, Sri Lanka and Bangladesh are preferred due to the openness of the societies. (Socio-cultural norms)

Finance

- a The industry usually relies on equity financing and is also considered to be the main reason of their success and competitive advantage.
- b To upgrade technology, towel manufacturers feel that the Govt. can support the industry through providing soft loans.

Human Resource

- a The industrialists strongly believe that the labour laws need to be reviewed and the employers should have the authority to hire and fire employees. The prevalent regulations restrict the employer to take action against the inefficient labour.
- b Labour productivity is generally considered to be low as compared to other competitor countries
- c The role of existing training institutes needs to be reviewed. The curriculum should be updated and pertinent courses should be offered to the students.
- d Government should facilitate the entrepreneurs if they are interested in involving foreigners in the process of employee training. The facilities of work permit, visa and other such formalities should be simplified

Towels & Industrial Textiles Sector

Subject: Textile Vision-2005

Date: February 17, 2000

Venue: SMEDA, Lahore

Participants

Mr. Tariq Sayeed Saigol, Chairman Textile Sub-Committee

Industry Representatives

Ghulam Murtaza	Towels Manufacturers association
Ahsan Javed Qureshi	Qureshi Towellers
Tahir Jahangir	Towel Manufacturers Association
Sheikh Navid Ali	Towel Manufacturers Association
Javed Aziz	Towels Manufacturers Association

Government Representatives

Dr. Salman Shah	SMEDA
Mr. Asir Manzur	SMEDA
Mr. Muhammad Idrees Ahmad	TCO
Mr. Sohail Moghal	SMEDA
Mr. Atif S. Malik	SMEDA
Mr. Ausaf Ahmed	TCO

Issues discussed

Mr. Tariq Sayeed Saigol opened the meeting. He explained the Government's vision for Pakistan's Textile sector for the year 2005 vis-à-vis its competitors. He also briefed the participants about the working template for the exercise. SMEDA presented brief statistics about towel exports of Pakistan.

Following important issues were discussed in different areas:

Technology/Production/Quality

- a Most of the raw material of Towel industry is wasted yarn that is not suitable for making fabric for sheeting or garments. So the towel industry is adding value to a raw material which otherwise would be sold at a very low price.
- b Very few manufacturers use shuttle-less looms for manufacturing towels. Majority of the towel industry uses conventional shuttle looms.
- c Product reject rate for the shuttle looms is higher than that for the shuttle-less looms but the defective products are sold in the domestic market making the manufacturer indifferent about the high reject rate.
- d It is more important to invest in the weaving downstream areas of processing and finishing. About 20% increase in the unit prices can be achieved by investing in these processes.
- e Vertically integrated companies can make a better quality products since they have control over all the processes which is not there in case of processes being subcontracted.

Marketing

- a The unit price of towels exported from Pakistan increased in 93-94. This was due to increased cotton prices that resulted in towel manufacturers moving into higher value-added products.

- b Pakistan used to have a major share in the Japan where usage of towels is very high. Pakistan lost this market to China due to high yarn prices.
- c Quota is one of the main restrictions towards increasing exports.
- d There has been very negligible increase in the unit prices of towels in the last ten years. This is because Pakistan sells in the low value-added segment that is almost a commodity market.
- e Institutional sales of towels are larger compared to the retail sales.
- f About 30% of the global towel market is of yarn-dyed towels which fetch better prices compared to the piece dyed.
- g As the quota regime will end, there will be a change in the industry mechanics. Some of the manufacturers will move in the upper market segments while some will move into the lower segments. Another effect of no-quota environment will be a decrease in unit prices.

Human Resource

Investment is required for building human resource base for the towels industry.

Regulations

- a Rupee appreciation in the European markets is causing problems for the exporters. Rupee exchange rate should be linked with a basket of currencies rather than to a single currency.
- b Procedures for sales tax refunds and export rebates should be facilitated.
- c Renewal of finance should not be held up for sister companies if one company is sick.

Finance

- a Interest rate is very high for the industry that contributes towards making the industry non-competitive internationally.
- b The LMM scheme, which had been abolished, should be revived.

Knitwear Industry

Dated: February 03, 2000

Product Diversification

India was taken as a case study. The product range of India varies from US\$5 to US\$200 per piece. Indian Government has offered a number of incentives for the Textile and Apparel Industry, which need to be benchmarked. The concentration is on the creation of sub-sectors and specialised vendor industry within each sector. In the market-product segment pyramid, it was stated that the number one, two and five are the growing segments which comprise of the high-end Designer wear and the mass production, while, segments three and four are shrinking which are the mainstream Designer Labels and Ready Made Garments Departmental Stores. Pakistan faces the danger of being stuck in the mass production/low price segment.

Vertically Integrated Units

All the stakeholders agreed on the inefficiencies of vertically integrated units (VIUs). In India, the government is discouraging setting up of VIUs, and laying more focus on creating specialised operations for dyeing, finishing, knitting, etc. However the argument against it is that in Pakistan the garment industry is surviving due to the vertically integrated units. The accessories industry is also very limited in Pakistan. Lack of bank finance is one reason that the specialised industry is not picking up.

Raw Materials

Access to all types of yarn and fabrics and accessories should be made simple on the principle of No duty No Drawback. However the effect of this on our local industry needs to be debated.

Spinners should be provided with high quality yarn.

Technology

Yarn, fabric dyeing and finishing are major hindrances to growth.

Human Resource Development

In Pakistan labour issue has become extremely important. Our labour is cheap but inefficient since no formal training is available. RMG labour is currently being paid on piece rate system, which needs to be made more effective. Although Pakistan has and more modernised factories than Hong Kong and China, they surpass Pakistan in the quality of their labour force.

There is no up-to-mark training institution for the industry. CAPIT-B project for the development of human resource in Pakistan was an excellent concept, its feasibility plans and groundwork was completed, but the project never took off due to bureaucratic hindrances. The Indian Institute of Fashion Design has campuses in Delhi and Bangalore and it conducts 4 year specialised degree courses.

Regulatory Affairs

High Energy costs: In a 1-Kg fabric, Rs. 25 is the energy cost. Furnace oil is becoming expensive everyday.

Non Tariff Barriers: The US Government has hired an NGO, which addresses issues like the environment, child labour etc. These are also some of the constraints which will gain significance for Pakistan in the coming years.

Role of other Govt. agencies e.g. labour department, social security, EOBI etc. should be redefined. Implementation mechanisms are out-of-date and counter productive for the industry.

Marketing

The 'Made in Pakistan' image needs to be changed. Counterfeit production is also hurting Pakistan's image.

Quota

Quota purchase is a heavy investment for the industry. This investment could have been made towards the purchase of essentials such as latest equipment or new software, which could have benefited the industry more.

Questions that need to be addressed:

1. Is there a potential to increase the unit value realisation in the current knitwear product mix?
2. What is needed to move towards exports of other higher value added products like women garments?
Why are we not entering the women garments manufacturing?
3. What are the requirements of higher tier markets / products?
4. Can Quota management be a driver for product/market diversification?
5. How can the backward linkages for the apparel industry be improved?

Responsibilities at Stakeholders end:

Mr. Babar Agha (Highnoon Textiles), Mr. Belal Ahmed (Ammar & Sarah's), and Mr. Azfar Hassan / Syed Ahsan of ABS-Nabila will help the SMEDA Apparel Team in developing programs for Human Resource development, recommendations for the Quota Policy, the data inputs for the customer specifications matrix and the costing model.

Knitwear And Hosiery

STAKE HOLDER'S MEETING (KARACHI) FEBRUARY 10, 2000

Women garments are more fashionable and thus require complex designing and better customer service to deal with rapid/frequent changes in specifications. Therefore, lead-time is a very important factor in their marketing.

QUOTA

Only the Bedwear Association should be in favour of quantity based quota allocation. It was pointed out that Non-Woven category (Wadding, fusings, etc) is not represented in SMEDA's proposed product mix. Also that quota volumes are low for Women and Girls. Pakistan should put up a case for merging of categories. There is no incentive to diversify.

Mr. Farooqi committed to providing comparative data on Quota Policy.
Possible quota mix for 2005: Value Addition – 50% -70%.

Non Quota Barriers

Since Quotas will not likely to be removed entirely in 2005, more non-quota barriers will emerge. Issues like Eco labeling, environmental compliance and Legal (child labour etc) compliance will gain more attention. Can Pakistan benefit from an internationally recognised agency issuing a Labour / Legal compliance certificate to the manufacturers?

Availability of Raw Materials

Local Fibre rates are 35% higher than international market (verify). Prices of yarn have increased instead of decreasing this year by Rs 10 per bale in the last few days. Open market will bring sanity in the domestic market. India is a more open market. In sourcing of raw materials, especially accessories, manufacturers depend on buyers' preferences. Since the majority of fabric stockists are in Hong Kong, it increases the cost.

The problem of cotton contamination (now even polyester is being added) is worsening. Higher count yarns are not available.

The impact on our local industry if we open the markets

Since we cannot take the protection away from the local industry, the two options open to us are, one: Open up gradually over 3 years, and two: Open up and protect the domestic industry through direct subsidy. Moreover, the incentive should be specific to export driven imports. Another workable suggestion is to simplify the No duty No drawback program for raw materials meant exclusively for exports, but keep tariffs in place for materials meant for domestic consumption.

Export Processing Zones

Why have these failed to deliver? Pak EPZ has a 1% turnover tax.
In Sri Lanka import documentation in EPZ is very simple i.e., Same day delivery at the factory premises (less than 4 hours).

Technology

Ours is a production driven industry rather than market driven one. The need is to move from piece production to chain production. We need to find out the applications of software in this sector. Specialisation is required to bring reliability in the chain, and improve dyeing and finishing of fabrics. This specialisation will also highlight the importance of customer service into focus.

Regulatory Affairs

1. Implementation is a major hindrance in utilising incentives.
2. Bonding Schemes need to be re-evaluated (SRO 818), indirect exporters should also be able to avail the facility of Bonded warehouses.
3. Negative List needs to be reduced/eliminated.
4. Customs and clearance procedures are too cumbersome. In Singapore it takes 4 hours from port custom clearance to factories.
5. Expansion is required in the export finance scheme.
6. Income tax concession should be extended also to the indirect exporters.
7. No Duty No Drawback scheme is skewed. Earnings for the govt. from this is
8. \$ 100 - 120 billion/year while only \$ 25 Billion are returned to the manufacturers.

The industry stakeholders to provide SMEDA with a list of

1. Products (Raw Material) not being locally made. What are the tariffs on these products?
2. Table of tariffs on imports and that returned in drawbacks on exports.
3. Constraints in the Bonding Scheme.
4. Hindrances in the implementations of the Govt. regulations.

Steps to an Open Market:

- Free imports
- Direct subsidy to local industry
- Government collects taxes from sales taxes on products for the local market.

Product Mix

1. Pakistan is manufacturing and marketing all basic products.
2. The mix should be 75% basic products and 25% Value added ones.
3. Export products are divided as 60% grey fabric and 25 % yarn.
4. The Pakistani industrialists do not have cotton counts, fabrics and the finishing to diversify our product base.
5. The backward link must be upgraded to move into complex products.
6. Cotton exports should not be allowed.

Marketing

1. Direct Marketing can improve our unit price realisation. We should manufacture what the market wants and not what we can produce.
2. Samples should be ready in short time periods to get the orders. For this purpose commercial sampling (knit and woven) units can be established.
3. Producing for the global Brand names is important however our own brands are not feasible at this stage in foreign markets. Direct marketing and design development and research can enable us to identify better opportunities.
4. We need to make Pakistan more attractive to foreign buyers who are no longer visiting Pakistan. Law and Order is one reason for this, while image and perception is the major problem.

Mr. Mahmud Ansari will provide SMEDA with India's investment (\$0.5 billion) data in marketing and local brand development.

Skill Development

Apparel University is an urgent requirement of the industry. At least an Apparel department in T.I.P should be established. The need is to Train-the-Trainers. Major areas to focus on are Labour force skills, Computer and IT applications, export merchandising and dyeing. These programs should be tailor-made for the Ready Made Garments industry. Argus Knitwear has been working on software packages for fabric constructions.

Technically, the weakest area is dyeing and finishing.

PRGMEA's training institute is offering a 3-month course in Export Merchandising.

Financing

Where is the capital to modernise?

LMM (local machine manufacturers) should also be offered financing at 8%.

WOVEN GARMENTS

PRODUCT MIX

Apparel is not only cotton based, since 70% of winter clothing is non-cotton. Performance fabrics and synthetic coatings are what the new markets/volumes are moving to. Microfibers are also taking away a big share of the market.

Knit business is also beginning to shift to India (50% loss in orders - Capital Mercury Shirts producing Bill Bass)

USA is going to be amongst the top clothing exporters due to its investment in automation and research.

Bangladesh enjoys preferential status in European Union (14% GSP for EU).

Value addition can also be achieved through going into multiple layer clothing (winter clothes) vs. single layer clothing.

Marketing

Exhibitions have failed to bring us value-added buyers due to lack of planning and image creation in these exhibitions.

Display centres are required, both within Pakistan and abroad.

Technology

Fashion garments are competitive and require shorter runs, smaller lead times, and adapting to rapid changes in requirements.

A Quality Garment Technology Institute is needed in these areas

1. Fittings and cutting patterns
2. Dyeing, finishing and printing industry. Dyeing technologists are urgently needed.
3. Quality standards need to be established.
4. Fabric development (increase our raw material base)

HK Productivity Council benchmarks labour and system productivity.

Labour laws apply also to piece rate labour.

Buying houses still manage to attract upto 30 EU buyers each year.

Regulatory Reforms

Bonding scheme: Following SROs are relevant for the export business.

1. No Duty No Drawback (#844)
2. Temporary importation (#818).
3. Manufacturing bond (#1140)
4. List of items which can be imported (#954).

Issues for Study

1. Commercial Courts
2. Credit rating criteria
3. Buyers grievances forum
4. Claim settlement

Woven Apparel

February 04, 2000

Participants

SMEDA

Mr. Tariq Saeed Saigol
Mr. Dr. Salman Shah
Mr. Dr. Ehsan-ul-Haq
Mr. Asir Manzoor
Mr. Idrees (TCO)
Ms. Zara Khan
Ms. Zertara Ayyaz
Mr. Ahsen Naseem
Mr. Fayyaz Ahmed
Mr. Sohail Moghal
Mr. Atif S. Malik
Mr. Majid Munir

STAKEHOLDERS

Mr. Riaz Ahmed (Immi Garments)
Mr. Javed Bhatti (US Apparel)
Mr. Rizwan Shafi (Crescent Greenwood)
Mr. Zahid Mohy-ud-Din (Endeavor)
Mr. Azhar Mehmood (Sec., PRGMEA)
Mr. Naveed Butt

Issues Discussed

Inputs / Raw Materials

The quality of available raw materials/inputs (especially yarns) is poor. Contamination in cotton and yarn is the main problem, which can be controlled at ginning and spinning stage.

Under the existing import procedures and regulatory set-up, import of raw materials is too cumbersome due to hindrances created by the concerned Govt. agencies.

Import of fabrics should be allowed duty-free so that a greater variety of fabrics is available for apparel manufacturers/exporters.

Getting good quality accessories and other process inputs are also a major problem. Sewing threads, buttons, zippers, trims, dyes, chemicals, pumice stones, etc. all have to be imported.

Marketing and R&D

Buyers prefer manufacturers who produce the required specifications, make quick deliveries at competitive prices. Sourcing flexibility should be emphasised on so that the raw material for apparel industry could be made readily available and lead times should be reduced as per the requirements of the international buyers.

The role of our commercial counselors should be made stronger. They should provide the small manufacturers with foreign market intelligence.

Buyers provide the standard specifications of their required products. Our manufacturers spoil Pakistan's image by not being consistent with the buyers demands.

Bad planning and lack of professional management were also identified as a hindrance to a company's success.

Technology

Non-availability of good quality dyeing and finishing facilities is the major problem. The quality of the finished fabrics is inconsistent and the variety of available finishes is very limited.

Specialised knitting, dyeing, printing and stitching units should be established rather than highly capital intensive vertical units. Small, specialised units for commercial sampling purposes should fulfil the buyer's requirement of shorter lead times.

Issues that need to be addressed

1. Why is our unit price realisation low in EU and USA as compared to regional competitors?
2. What is the difference between the products exported by Pakistan and its regional competitors in the same quota categories to the USA and EU?
3. What would it take to make higher value products (move to a higher tier product market)?
4. Why is our product mix so skewed towards men's garments? Why can't we move into women's garments as well?
5. Role of commercial importers needs to be defined. Can they play a role to support the industry and what are the legal modalities?
6. Issues related with import of Raw Materials
7. Tariff structures: What are the govt. earnings from tariffs on textile raw material import for the complete textile chain?
8. Negative List of Textile Items - Reduction or Elimination?
9. Detail Analysis of Import and Bonding Schemes.
10. Creation of Secondary Markets for inputs.
11. Reduction/elimination of duties on Accessories & Dyes/Chemicals.

Data to be provided by the Stakeholders

TASK

Quota Policies of Sri Lanka & Hong Kong
Study of Non Tariff Barriers
Export Documentation
Export/Import Incentives
Tax Structure
Government Agencies and Departments

SOURCE

Crescent Greenwood
Crescent Green Wood
Crescent Green Wood/US Apparel
Mr. Wajid Jawad
US Apparel
Endeavour

Meeting With CBR

Dated: 8th March 2000
Islamabad

Mr. Tariq Sayeed Saigol introduced the assignment given to Textile Sub-Committee for formulating a long term Textile policy in line with Textile Vision-2005. Following important issues were discussed in the meeting.

Issues Discussed

1. Mr. Salman suggested a break-up of Textile exports into quota and non-quota items so as to project the exports in year 2005 accurately.
2. An implementation committee should be formulated that should start working immediately on the issues which have already been decided.
3. The number of SROs should be reduced by merging some SROs into each other so as to facilitate the procedures for the exporter.
4. SRO 818 is one of the easiest SROs to use. This relates to duty free temporary imports for re-export purposes of the inputs that are identifiable at the time of exports such as garments' accessories. This does not cover the items like chemicals etc. since they are not identifiable at the time of exports. No drawback can be claimed under this SRO. Checks for this SRO are done only at the time of imports and exports and no check is done during the processing stage.
5. SRO 844 relates to 'No duty-No drawback' and has been formed by merging of three SROs.
6. SRO 1140, anything can be imported and upto 40% of the goods can be sold domestically with payment of duty.
7. Export processing zones operate like offshore facilities in terms of customs. There is no foreign exchange facility and local banking is not accessible. These zones are meant for foreigners or overseas Pakistanis.
8. SRO 27 is according to the latest investment policy. Duty free imports of machinery is allowed for export processing.
9. The SROs are not produced by the government alone. They are prepared on the demand of the industry. Complaints go to Ministry of Commerce complaint cell in EPB. The Customs and Sales Tax official hear complaints.
10. The SROs are not implemented o for SMEs.

Issues raised by Tariq Saeed Saigol

1. Small exporters do not have money to avail bonding schemes.
2. It is not always possible to export 100% goods. Some minimum ratio is required.
3. Analysis systems and wastage are firm specific. They need to be standardised.
4. Integrated units cannot import as a firm
5. Wide dissemination of facilities by CBR/ Customs are not present.
6. SMEs may be very capable but do not get competitive prices because of small orders. They can secure large orders through commonly bonded manufacturing at competitive prices.
7. Duty-free imports of fabrics are allowed under 818, Yarn and made-ups are not included because they are not identifiable. Similar rules are required for them.
8. Items need to be removed from the negative list, they can be imported if 60% exports can be achieved, and this ban should be removed for all consumption
9. Analysis card system requires standardisation, the same percentage for a certain raw material should be present. The committee should be set up for this without waiting for the textile policy. A wastage determining committee should also be set up.
10. User manual needs to be formulated for SRO 1140 "Manufacturing of Bond Rules".
11. Integrated units should use SRO 844 instead of 818.
12. Factory processes need to be standardised through documentation.
13. Response to Common Bonded Warehouse scheme is very poor

14. Current usage of SRO scheme in terms of revenue
15. Ask clearing agents about their problems
16. Industry does not want to be documented – scared of customs/sales tax because of documentation demand and illegal gratification
17. WTO; Pakistan has to remove ban
18. Trade Policy; input output coefficients is a double-edged sword. It is excellent if transparency is ensured but is a total disaster without transparency.

Committees to be set up

1. Implementation Committee
2. Dissemination of Information
3. Activating committee to determine wastage

Second hand machines with similar specifications and efficiencies, manufactured in Pakistan should not be imported.

Cash incentives – extra 20% duty drawback of total exports not incremental
Export Realisation Certificates will be difficult to assess, bigger exporters can manipulate and misuse them.
There will be no increase in exports and CBR will face a revenue loss

The lowest slab is 10% for machinery not manufactured locally and for chemicals.
Determination of machinery is difficult. Engineering Development Board does not give recommendations.
Dyes and chemicals have 10 or 15% duty. There should be one rate as the items are difficult to differentiate

Suggestions are required from stakeholders, they should come up with solutions not problems
Pakistani investors in EPZ should have access to Pak's finance in EPZ.
SRO for EPU should be restored.
Subsidy for ISO 9000 certificate to be renewed from Jun 2000.
Under the bond scheme anything can be imported for exports

APTMA MEETING

SMEDA HEAD OFFICE, THURSDAY, FEB 17, 1999

Hong Kong Market

What is the edge of HK Market?

Good "Free Trade" Environment
Good Financial Center
Helpful government rules and regulations
Manufacturing had shifted to China, marketplace is still HK

Can Karachi be made a similar market to Dubai?

Make investor- friendly policies
Develop infrastructure for cotton stocks
Jebel Ali trade zone is an example
Political instability of policies is the most discouraging factor

Price Control

APTMA

1. Every country maintains a buffer stock, buffer stock leads to exportable surplus
2. Subsidise cotton to compete, China and India subsidise cotton prices.
3. Government should control prices (Export parity price)(TCP)
4. Minimum support price for agro-based commodities world over
5. If raw material, cotton is available at international prices then other inputs (electricity) should also be at international prices.

Tariq Saeed Saigol / Salman Shah

1. A free market mechanism for price control and buffer stock should be maintained through private sector development
2. Create institutions and market mechanism that will control prices without Government.
3. Pakistani Cotton in the international market is considered low quality for a high price.
4. There are no forward markets, big buyers, assessors and infrastructure in the private sector to make Karachi a market for cotton like Dubai
5. If a market driven system is be put into place, it should be stable and fully implemented

Summary

Tariq Saeed Saigol's five points

1. Raw material issue
2. Investment plan in yarn, spinning, weaving, and cotton.
3. Provide game plan as to how much credit is required, and what kind of technology can it developed locally.
4. Tariff Structure
5. Bonding Scheme
6. Ginning quality improvement

Salman Shah

Spinning industry should be capable enough to cater for all counts of yarn by 2005
And the product range should be broader.

APTMA will provide a game plan for the above mentioned five points.

Cotton Growers, Ginners & APTMA

Dated: 28th February 2000

Participants

Government Agencies

1. Mr. Tariq Saeed Saigol Chairman Sub-committee Textile Policy 2005.
2. Mr. Iqbal Mustafa Sector Head, Agriculture, SMEDA, Lahore.
3. Dr. Sulaman Shah Advisor SMEDA, Lahore.
4. Mr. Usman Rasul SMEDA, Lahore.
5. Mr. Khalid Mahmood SMEDA, Lahore.
6. Dr. Zahoor Ahmed Director, Central Cotton Research Institute, Multan.
7. Mr. Munir Din Khan Director, Cotton Research Station, Multan.
8. Mr. Waheed Sultan Director, Cotton Research Institute, Faisalabad
9. Dr. Ibad Badar Director, Pakistan Central Cotton Committee, Karachi.
10. Dr. Sikander Ali Director, NIBGE, Faisalabad.
11. Mr. Liaqat Ali Khan Director, Pakistan Cotton Standards Institute, Karachi.
12. Mr. Muhammad Idrees Commissioner Textile, Karachi.

Farmers

13. Mr. Shah Mahmood Qureshi Farmers Association of Pakistan
14. Mr. Qaiser Zulfiqar Khan FAP
15. Mr. Farhat Ullah khan FAP
16. Mr. Siddiq Akbar Bukhari FAP

Ginners

17. Mr. Sheikh Saeed PCGA, Karachi.
18. Mr. Masood Majeed PCGA, Bhawalpur.

APTMA

19. Mr. Abid Faoorq Vice chairman APTMA Punjab Zone, Lahore.
20. Mr. Tariq Mehmood APTMA, Lahore.

Pesticides

21. Mr. Mansoor Ali Baig Marketing Head, NOVARTIS, Karachi.

Agenda

Before the stakeholders were invited to discuss the issues in cotton and ginning at SMEDA Lahore, the following agenda points were circulated to all the invitees and their feedback was sought.

Quality

The quality of cotton lint available ex-ginning factory in Pakistan is the cornerstone of the textile industry and the weakest link in the value chain. Although the genetic potential of the varieties grown in the farmers' field is of high quality and fits adequately in the largest segment of the staple length requirements of the local and global markets. However, from the farmers' field, through picking, storage of seed cotton, packing, transport and ginning it deteriorates to a lint quality which is discounted by 10% - 13% in the world markets due to a variety of factors. The downstream industries have accepted this reality and Pakistan's textile industry has therefore remained content with operating in low-end markets with a limited product range. Any strategy to move Pakistan's textile industry into a higher technological orbit, upper-end markets, value added products and diversification of product range must begin with drastic improvement in lint quality available ex-ginning factories. The areas that need exploration and improvement are as follows:-

Genetic potential of the varieties

The value of lint is related basically to staple length. There is always a certain differential between the laboratory potential of varieties and commercial ginning results depending upon the ginning efficiency. The

subgroup will evaluate the genetic potential of existing varieties in terms of and establish benchmarks for improvement in these areas with regard to adoption of varieties and future breeding:-

- Staple length
- Length Uniformity
- Fibre strength
- Micronaire
- Colour.

Seed Cotton Processing Issues

The processing of seed cotton begins with picking in the fields and ends in baling at the ginning factory. The steps involved in between include:-

- Wrapping and Transport to Farmers' shed.
- Storage in Farm sheds.
- Bagging and Weighing.
- Transport to Ginning Factory.
- Piling at Ginning Factory
- Pre-cleaning at Ginning Factory
- Ginning
- Lint cleaning.
- Lint moisture control.
- Baling — pressing and wrapping.

The loss of quality occurring in this chain includes:-

- Admixture of different varieties with different fibre characteristics.
- Excessive moisture in seed cotton.
- Excessive field trash and dirt in seed cotton.
- Picking of immature cotton balls with inferior lint qualities.
- Contamination with jute and polyester fibres.
- Inadequate pre-cleaning at Ginning Factory before ginning.
- Low quality ginning, primarily due to lack of proper adjustments and blunt saws in the saw-gins causing shorter staple lengths and increase in floating fibres and low uniformity ratios.
- Excessive moisture added prior to pressing.
- Non-standard wrapping materials.

The sub-group will evolve a strategy to eliminate these weaknesses in the processing of seed-cotton processing.

Marketing

Market failures are endemic to agricultural commodities in Pakistan but most crucial to the cotton since this commodity accounts for roughly one-sixth of the total agricultural GDP and 65 percent of exports in raw, semi-processed and processed forms. The main issues regarding stability of cotton (lint) market are as follows:-

a. Standardisation

There are no uniform and internationally comparative standards of quality evaluation in the country. The pricing of lint is therefore based on arbitrary and irrelevant parameters. The price quotations in the market are based on the names of varieties that have long ceased to be grown e.g. MNH-93, K-68 etc. with an assumption that the lint being quoted will conform to the genetic characteristics of these varieties. Or, price premiums and bonuses are offered on the basis of geographical location of the ginning factories on the general impression that local climatic factors determine quality and that there is no movement of seed cotton from region to region (which in fact is quite substantial). The lack of any established and accepted empirical parameters of judging lint quality in the market is weighted in favour of the buyers — the spinners in this case — who purchase cotton at lower pricing benchmarks than is corresponding to quality. This has led to a marketing aberration whereby sellers clamour for quality considerations while the buyers are content with non-descript labels on lint.

The Cotton Standards Institute was set up with the help of FAO and it worked for six years to establish cotton standards — both for seed cotton and lint. The Ordinance of Cotton Standards has not been passed through legislature till hence. The subgroup will make recommendations on the establishment of cotton standards in the country.

b. International Pricing Benchmarks

An open marketing system for a level-playing field depends upon ensuring that the growers get a price for their seed cotton that is equivalent to international market benchmarks for the same quality. In the absence of quality standards and an independent agency for evaluation of comparative prices, confusion abounds regarding cotton lint pricing in the country. All three players — growers, ginners and spinners — often claim being exploited by each other. The sub-group will recommend an agency and mechanism for establishing comparative international benchmarks on a continual, week by week basis throughout the cotton season every year.

c. Stabilising cotton prices within an acceptable range of international benchmarks.

In order to stabilise prices within an acceptable range of variation from international benchmark prices the sub-group will consider the following alternative mechanisms and recommend the most effective (or a combination):-

- Fiscal measure of incentive and disincentives.
- Direct interventions in the markets through public sector agencies.
- Establishment of hedge markets.

d. Middle Markets

There is a dearth of Middle Markets for storage and trading of cotton over the cotton year (1 sept. to 30 Aug). Cotton inventories have to be carried by the Spinners, Exporters or the Ginners. The sub-group will consider recommendations for creation and promotion of such markets in alternative forms — marketing cooperatives, forward markets and specialised trading houses.

Issues Discussed

Cotton Policy

Two policies need to be formulated:

- Short-term Policy (on emergency basis for the next coming cotton season) with announcement of support price or some other mechanism.
- Medium and long-term strategies with focus on open market (free import & export of cotton), implementing cotton standards etc.

Yield Potential.

This year was the most suitable climate for cotton crop as the pest attack was minimal but again the yield per acre was not good. Yield potential of our varieties is continuously deteriorating because of genetic variations. New varieties should be produced for each zone keeping in view the climatic conditions of that area. The average yield per acre is almost stagnant in Pakistan for the last many years. Need to produce high yielding varieties.

Pest Resistance

Cotton pests have become so resistant to pesticides as a result of uncontrolled spraying. Alternate cropping pattern should be adopted for crop rotation. Method of Bio control and integrated pest management should be encouraged. Pesticide spray should only be restricted to the time when pest causes economic loss after threshold level.

Spraying Equipment

There should be a standard calibration of spraying equipment for uniform application of spray. This will reduce economic losses of a farmer.

Cotton Acreage

At present the cotton area in Punjab has decreased due to its shift towards sugar cane cultivation (7-8% area under sugar cane). A new area in NWFP has been identified for cotton cultivation in D.I.Khan along the Chashma Right Bank canal.

Punjab: 3 mill ha

Sindh: 0.6 mill ha

NWFP+ Baluchistan: 0.035 m ha

Cotton Leaf Curl Virus (CLCV)

This disease turned in to an epidemic form in 1993 due to abundant cultivation of a virus susceptible variety (S-12). Pre-testing of new varieties against virus should be mandatory before release for commercial cultivation.

Variety Approval Criteria

Minimum staple length should be fixed at 28 mm and GOT 38% for approval of a new variety for commercial cultivation

Private Sector Seed Production

It was recommended that private sector should be encouraged to import and develop cottonseed, however the breeder should get certification from government. Some efficient system must be established for timely certification of approved variety.

Lack of Timely Cotton Export

The price of cotton starts falling as cotton season, which starts from August and ends in December; November is the peak season of Phutti arrival. For the last many years this decline in price trend is prevailing in the market. Prices start stabilising in January when surplus cotton starts exporting. Cotton export starts in the end of January when 90% of cotton has moved out of farm and farmers sell his cotton at through away price as he can not store cotton for cotton.

Cotton Quality

Staple Length: Target length should be 28mm to 31mm as industry demand for long staple cotton is increasing for producing high-count yarn of fine quality. Long staple length varieties are although available in breeding lines in research stations but needs to be commercialised on large scale. Presently our industry requires one Lac bale of 1-1-8 " staple length cotton for each year.

Fibre Strength: Our fibre strength is better than china and India but again need to produce varieties with higher fibre strength. Fibre lengths and fibre strengths should improve side by side

Micronaire: 4 to 4.9 micronaire values produce fine quality yarn.

Fibre Maturity: Mature fibre is more strong and uniform to produce good quality fibre

Contamination Issue

The trash content in our cotton is very less than USA cotton due to manual picking but contamination is high (7% non-lint contents) as compare to USA (3%). The contamination of non-lint contents can be minimised through incentive by paying premium price to clean cotton.

Wet Picking: Early picking in the morning results in high moisture contents. Picking should start after 10 AM in the morning to minimise moisture level.

Custom Ginning: Quality of cotton can be further improved, if growers practice custom ginning and get direct benefit of clean picking.

Sowing & Irrigation Practices

Furrow plantation is an agronomic technique, which has shown better results in yield enhancement both in Sindh and Punjab province. Agriculture extension department should play its vital role in educating farmers about furrow plantation.

Cotton Ginning

- Pakistani cotton is sold at a discounted rate of 5-10cents/lb in the international market due to poor ginning quality.
- Post-ginning cleaning is negligible, as there is no incentive for it. Spinners are not eager to pay premium price for the clean cotton.
- More than 99% of cotton is ginned through saw gins, which deteriorates the lint quality. With the passage of time the number of floating fibre is increased as a result of blunt saw. To compensate the efficiency the speed of gin-saws is also increased which also effects the fibre quality.
- Replacement of ginsaws should be made compulsory by law after a certain amount of ginning.
- The quality of local saws is not up to the standards while the imported saws are very costly due to heavy import duty on it.
- Govt. should allow duty free bulk import of saws for the whole ginning industry.
- Ginning factories maintaining certain standards should only be given license for operation.
- Initially each lot of lint cotton should be labeled with the standard grade after testing sample with HVI system but later on each bale should be labeled separately.
- The ginners complained that there is no institution in the country where they could send their workers for training in ginning.
- Participants identified the need for establishing a Cotton Ginning Research Institute at Multan.
- For long staple cotton we need roller gins. Roller gin doesn't break the fibre but gives better GOT than saw-gins. In India 60% of ginning is done through roller gins because 66% of their cotton production is of 1-1/8" staple length and above.

Oil Extraction Technology

It was pointed out that the oil ratio in the "Phutti" is more than 12% but our oil industry is only extracting 6 % of it and rest of it is going in to wastage with feed.

By introducing solvent extraction technology and putting ban on expeller technology. We can increase the edible oil production up to 20 % by doing so.

Spinning Issues

APTMA will prefer to buy cotton round the year instead of only in cotton season. This will help to reduce the carrying cost incurred on stock maintenance.

Private Warehousing facilities should be provided around the mills to store cotton.

TCP or other Public sector agency should keep the buffer stock for local mill consumption in case of crop failure.

Marketing Issues

The representatives of farmers pointed out the serious issue of cotton pricing, which had turned down in to crises in the last cotton season. Farmers had to bear heavy losses, as the cotton prices were even below then the cost of production. The major factors in decline of cotton prices were:

- Volatized market of cotton resulted in decline in international cotton prices due to rumours of big Chinese crop. (China did a lot of cotton buying in 1993 and has stored a heavy stock since that time).
- Lack of capacity of local buyer i.e. APTMA for timely purchase of cotton.
- Late intervention by the public sector as a second buyer in the form of TCP.
- Ban on cotton export in early season of cotton.
- Recession in the Asian market.

Time Parallax

The time window of 30-40 days is a critical factor in export of cotton. If the announcement of cotton export is made on 1st week of January, the time needed for finalising the export orders is about 30-40 days. Farmer can not wait for these many days due to lack of storage facility. Cotton export must be announced in the beginning of cotton-picking season.

Documentation Issue

There is a major difference in the cotton production figures quoted by PCCC and the spinning industry. Documentation of records should be made accurately to remove the difference.

Crop Reporting: Method of cotton crop estimation is almost primitive and unable to forecast in time.

- Independent crop estimation agency should take care of this issue.
- Satellite services can also be hired for this matter.

Sales Tax on Cotton lint and cottonseed should be removed up to the level of yarn.

Cotton Cess is presently charged by Pakistan Central Cotton Committee for the promotion of cotton research in Pakistan. Research institutions demanded increase in this cess while the APMTA opposed it.

Crop Insurance should be introduced in case of cotton for protecting farmer against natural calamities.

Future Production Targets

Comparison was made between current and future demand of cotton in 2005. At present 9 million bales of cotton are being consumed. Whereas, for year 2005, the following break-up was suggested:

Mill Consumption: 12 million bales

Export : 3 million bales

Buffer Stock: 1 million bales

All those Constraints and barrier like "limited supply of superior quality cottonseed, shortage of fertiliser, pesticides etc." should be removed for achieving target production of 16 million bales.

How to Achieve 16 million cotton Target in year 2005?

- Increase cotton area under cultivation (which is almost static for last many years).
- Produce high yielding varieties.
- Promote better-GOT Varieties.
- Better cultivation practices.
- Timely availability of farm inputs.
- Improve irrigation.
- Precision planting equipment.
- Precision spraying equipment.
- Improve ginning technology to get more GOT

Standardisation of Farm Machinery

- Farm machines should be standardised.
- Farm machinery rental companies equipped with modern machinery should be encouraged.

Corporate farming

This concept should be introduced for economies of scale in mechanised farming.

Pakistan Cotton Standards Institute (PCSI)

Ministry of Commerce had approved the ordinance of PCSI and for last many years waiting for implementation.

- PCSI has laid down standard grades for Phutti and Lint cotton which need to be executed and price should be based on quality grades.
- PCSI has trained 128 classers and has capability to train more manpower if required for the industry.
- Ginning and spinning industry should employ the trained qualified cotton classers in order to ensure the supply of quality cotton.

Standard weight of lint and Phutti

Cotton transactions should be based on 100 kg instead of traditional weigh scales of 37Kg mand or 40 kg mand.

Proposed Solutions**Free Market**

- There should be no restrictions on free trade of cotton lint — export and imports without any tariff.
- There is a need to create a free cotton market at Karachi. Free import and export of cotton should be allowed.
- This will not only serve as market place for local cotton but also act as a trade hub for the Asia region. Turkey, Uzbekistan and other cotton growing countries will have access to this market for cotton trading.

Public Sector Intervention in the form of TCP

In order to save the interest of farmers, there is a need to bring TCP as a second buyer of cotton and it should start operations from the very beginning of cotton season. . TCP should purchase cotton on export parity prices.

Hedge Marketing

Hedge marketing was prevailing in the country since 1974 and was banned after the establishment of cotton Export Corporation. It actually provides a cushion to cover risk of price fluctuations over the year. It is an option available with all the players in the cotton chain from farmer to ginners, spinners and exporters. In this case a farmer can fix the price of his cotton before the cotton-sowing season. Others can also practice the same exercise to fix the price of their produce. Karachi Cotton Association (KCA) is willing to control entire Hedge marketing mechanism. By Laws of KC are with the ministry of commerce for final approval for reinstating hedge marketing. Govt. should formulate a committee consist of govt. and private sector stakeholders to review the issues regarding hedging.

Marketing Channel

In America the ownership of the cotton remains with the farmer, whereas in Pakistan it changes hand at each step of value chain.

Cotton Daily Price Quotes

Prices should be determined on quality grades fixed by Pakistan Cotton Standard Institute (PCSI) rather than varieties i.e. MNH-93, NIAB-78 and K-68

Daily spot price of Phutti and cotton lint should be announced after "Khabernama" on PTV according to quality grades of PCSI.

Cotton Growers, Ginners & APTMA Meeting

29th February, 2000

Participants

Government Agencies

1. Mr. Tariq Saeed Saigol Chairman, Sub-committee Textile Policy 2005.
2. Mr. Iqbal Mustafa Sector Head, Agriculture, SMEDA, Lahore.
3. Dr. Sulaman Shah Advisor SMEDA. Lahore.
4. Mr. Usman Rasul SMEDA, Lahore.
5. Mr. Khalid Mahmood SMEDA, Lahore.
6. Dr. Zahoor Ahmed Director, Central Cotton Research Institute, Multan.
7. Mr. Munir Din Khan Director, Cotton Research Station, Multan.
8. Mr. Waheed Sultan Director, Cotton Research Institute, Faisalabad.
9. Dr. Ibad Badar Director, Pakistan Central Cotton Committee, Karachi.
10. Dr. Sikander Ali Director, NIBGE, Faisalabad.
11. Mr. Maqbool Sadiq Chairman, Karachi Cotton Association.
12. Mr. Liaqat Ali Khan Director, Pakistan Cotton Standards Institute, Karachi.
13. Mr. M. Idress Commissioner Textile, Karachi.

Farmers

14. Mr. Shah Mahmood Qureshi Chairman. Farmers Association of Pakistan
15. Mr. Afaq Tiwana FAP
16. Mr. Farhat Ullah Khan FAP
17. Mr. Siddiq Akbar Bukhari FAP
18. Mr. Faisal Imam FAP

Ginners

19. Mr. Khawaja M. Azam Pakistan Cotton Ginners Association, Multan.
20. Mr. Sheikh Saeed PCGA, Karachi.

APTMA

21. Mr. Abid Farooq Vice chairman, APTMA Punjab Zone, Lahore.
22. Mr. Tariq Mehmood APTMA, Lahore.

Issues Discussed

In a meeting held on 29th Feb.2000 at SMEDA office, Lahore, where representatives of the Farmers, Ginners, Breeders, KCA and APTMA participated, the following issues were discussed and opinions of various stakeholders are given below:-

- 1) Growers, represented by Makhdoom Shah Mahmood Qureshi gave their view point and gave the following recommendations:
 - a) Along with the private sector e.g. exporters, there should be a second buyer from the Public Sector, TCP who must come in to the market at the beginning of cotton season i.e. 1st of August. And purchase at international parity prices.
 - b) Regardless of the crop size Pakistan must maintain its foot hold in the international market by exporting cotton. This should be ensured through a minimum export quota of 15-20% of the total produce.
 - c) The export quota to be executed through TCP and private exporters. In case International price falls below domestic prices, the balance should be provided by budgetary support to both TCP and the private sector.
 - d) Surplus Cotton of this year (1999-00) must be exported to save the farmer from an artificial glut in the coming cotton season.

- e) Adequate liquidity for the purchase of Phutti must be provided to the ginners and TCP in time and a minimum specific budgetary allocation must be made for this purpose.
 - f) In case of a price collapse in the international markets, farmer should be protected through induction of a minimum support price mechanism.
 - g) A new cotton exchange must start functioning at Multan and govt. must issue notification before the start of new coming cotton season.
- 2) Ginners, represented by Sheikh Mohammad Saeed, Chairman PCGA, expressed that:
- a) Ginners are mere processors of cotton and have no direct interest in the pricing mechanism beyond the security that their lint is lifted in same volume that the Cotton arrives at their factories. During November/December 150,000 bales per day are being received while the uptake by the Spinners and Exporters is around 50,000 bales per day. The Ginners are perforce made to play the role of warehouses. They have to sell lint on credit while the growers, majorities of them are below 12-acre farmers require ready cash which is not available under this situation.
 - b) Ginners, therefore, expressed a strong desire for a Public Sector Agency like TCP to begin lifting the lint from the start of the season as an alternative buyer at international parity prices to ease the cash flow problems faced by them.
 - c) Ideally, they opined that there should be private sector warehousing facilities that can take up the surplus lint stocks during November – January months. However till such facilities are developed through government incentives in the form of concessionary interest rates, TCP should remain as the alternative source of lint purchase.
 - d) For this purpose the Government should ensure that TCP is adequately financed.
- 3) APTMA represented by Mr. Abid Farooq, Vice Chairman APTMA and Mr. Tariq Mahmood were of the opinion that:-
- a) APTMA supported a totally free market mechanism with no tariff or non-tariff barriers on export or import of cotton.
 - b) They reserved their decision on introduction of ‘Forward Contracts’ and Hedge market at KCA.
 - c) APTMA had no reservations on participation of TCP in the market, provided it’s purchases were based on international parity prices i.e. FOB Karachi Price.
- 4) Karachi Cotton Association, represented by Mr. Maqbool Sadiq, Chairman KCA, expressed that:-
- a) There should be an open import and export policy with no quantitative quota restriction.
 - b) TCP or any other Public Sector agency must not be used to set market prices.
 - c) Any support to farmers may be made through fiscal and monetary interventions by the Government and not by direct market interventions.
 - d) KCA pleaded a case for permission of re-instatement of Hedge markets since this would provide a security against price fluctuations to all the stakeholders, growers, ginners, spinners and exporters.

Recommendations

The following were the areas where all stakeholders had a common consensus:

- a) There should be no restrictions on free trade of cotton lint — export and imports without any tariff and non-tariff measures.
- b) Public Sector agencies like TCP may be remain activated throughout the season but should operate on a commercial basis at viable international parity prices and be refrained from inflating lint prices artificially.
- c) The ordinance of Cotton Standards Institute should be legislated and the Standards defined there in enforced at all levels from the ginning factory gate to the KCA spot rates.
- d) Sales Tax on cotton lint and cotton oil cake may be withdrawn with immediate effect and be imposed from yarn and yarn products upwards.
- e) A committee should be formed with a definitive time frame to review the possibility of re-introduction of hedge markets and recommend necessary safeguards against excessive gambling, cornering, hammering and defaults through the system. The Committee should constitute growers, ginners, spinners, exporters and KCA traders. The recommendations of the Committee should be implemented expeditiously.

The measures enlisted above in *recommendations* should resolve differences of opinion and provide the necessary comfort level to all the stakeholders for the forthcoming cotton season while ensuring an equitable cotton market.

Financial Viability of Textile Sector in Pakistan

Spinning Industry

Weaving Industry

Stitching Industry

Spinning Model Brief

1. The spinning model is based on the main assumption that the back process and hence plant machinery investment is optimized for 20 count yarn. Hence when the unit produces 20 count yarn, the production is highest as no machines are idle. As the count increases, the production of bags of yarn decreases and the back process has idle capacity.
2. The starting point for production of bags of yarns is the number of ring frames. For the purposes of this model we assume 34 ring frames with 516 spindles per frame. This number can be changed to run other spinning factory size scenarios.
3. The area of the factory is based on the number of machines i.e. ring frames and the back process. Further spinning factory is divided into areas for each type of machine, raw cotton storage area, and storage room for the yarn. There is also area calculated for the handling bay, service bay, grounds and storage.
4. The wages of machine operators correspond to the technical expertise required by the particular machine. Hence the wages vary from person to person. The salaries are monthly and determined for the model from spinning units visited. There is some sub-contracted labour in each spinning unit specifically for mixing/contamination sorting, loading and packing. The administration expense calculated from the human resource requirements varies slightly from count to count due to capacity of machines varying between counts.
5. The sales price of the finished garment is market driven and depends upon the count of the yarn. Therefore, it varies from count to count.
6. The primary cost of goods sold is the price of raw cotton which is taken as the market average due to the fact that the prices widely fluctuate depending on the amount produced locally and imported by the government.
7. Inflation is taken to be 8% based on the Pakistan Economic Survey report. All other growth rates as listed in the assumptions are market driven and/or based on actuals collected from spinning units visited to accumulate information about the model.

Spinning Model Assumptions
Key Variables

SMEDA

Count 1 Bag = 100 lbs of yarn

Revenue related	Value	Rationale
Sales price / bag for combed	-	Market driven average price
Sales price / bag for carded	4,600	Market driven average price
Sales price growth rate	3%	Conservative Textile Vision 2005 estimates
Combed Production (Bags/year)	-	40 and 80 count yarn is 100% combed, 20 and 30 count is 25% combed
Carded Production (Bags/year)	132,300	12 count is 100% carded, 20 and 30 count yarn is 75% carded

Cost related	Value	Rationale
COGS 1 (cost of raw cotton/bag)	2,802	Market driven average price for 12-40 counts, for 80 count PIMA cotton average price
COGS growth rate	3%	Conservative Textile Vision 2005 estimates
Op costs 1 (maintenance/bag)	67	Based on industry provided information
Operation costs growth rate	3%	Conservative Textile Vision 2005 estimates
Variable electric load (KW)	1,512	Based on per machine electricity consumption
Fixed electric load (KW)	224	Based on total fixed lighting load for management and factory areas
Office expenses (stationary, entertainment, etc.)	1.0%	% of administration expense
Promotional expense	1.0%	% of revenue
Machinery & equipment insurance rate	5.0%	% of book value
Office vehicles insurance rate	7.0%	% of book value
Professional fees (legal, audit, consultants, etc.)	0.5%	% of revenue
Interest rate on short term debt	12%	Current Market Rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey

Operations related	Value	Rationale
Hours operational/day	24	Continuous operations
Days operational/year	360	Number of working days a year

Other	Value	Rationale
Dividend rate	40%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure	Flat Turnover Tax	1% Applicable Tax

Financial Evaluation of the Spinning Industry

SMEDA

Key Variables		(Rs. in actuals)
Yarn Count		12
Total Investment in Project		449,263,540
Debt	60%	269,558,124
Equity	40%	179,705,416
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		4
Sales price (Rs) / lb of carded yarn		46
Sales price (Rs) / lb of combed yarn		-
Total Number of Employees		576

Sensitivity
Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	34,869	53,435	78,904	78,737	78,108	76,966	76,121	75,713	75,100	197,908
Interest Costs	43,875	42,480	37,723	30,345	21,715	11,193	3,511	-	-	-
Principal Repayment	(8,506)	10,955	41,182	48,392	56,392	65,773	55,370	-	-	-
Total Debt Servicing*	35,369	53,435	78,904	78,737	78,108	76,966	58,881	-	-	-
Net Cash Flow to Investors	(500)	-	-	-	-	-	17,240	75,713	75,100	197,908

	Equity	Project
IRR	8%	10%
Payback Period (yrs)	10.06	8.47

*Includes leases if any

Statement Summaries		Count	12	SMEDA
Initial Investment				
Capital Investment		Rs. in 000's		
Land			1,725	
Building/Infrastructure			28,213	
Machinery & equipment			352,014	
Furniture & fixtures			248	
Office vehicles			2,514	
Office equipment			360	
Pre-operating costs			14,285	
Training costs			-	
Total Capital Costs			399,359	
Working Capital		Rs. in 000's		
Equipment spare part inventory			734	
Raw material inventory			30,894	
Upfront land lease rental			-	
Upfront machinery & equipment lease rental			-	
Upfront office equipment lease rental			-	
Upfront office vehicles lease rental			-	
Upfront insurance payment			17,777	
Cash			500	
Total Working Capital			49,905	
Total Investment		449,264		
Initial Financing		Rs. in 000's		
Debt			269,558	
Equity			179,705	
Export re-finance facility			-	

Statement Summaries		Count	12	SMEDA							
Income Statement											
		Rs. in 000's									
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue		623,403	642,105	661,368	681,209	701,645	722,695	744,375	766,707	789,708	813,399
Cost of goods sold		438,666	451,826	465,381	479,343	493,723	508,535	523,791	539,504	555,689	572,360
Gross Profit		184,736	190,278	195,987	201,866	207,922	214,160	220,583	227,202	234,018	241,039
<i>General administration & selling expenses</i>											
Administration expense		20,799	22,824	25,046	27,484	30,160	33,097	36,319	39,855	43,736	47,994
Land lease rental expense		-	-	-	-	-	-	-	-	-	-
Utilities expense		51,105	55,193	59,609	64,378	69,528	75,090	81,097	87,585	94,592	102,159
Communications expense (phone, fax, etc.)		-	-	-	-	-	-	-	-	-	-
Repairs & renewals		-	-	-	-	-	-	-	-	-	-
Office vehicles running expense		-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)		208	228	250	275	302	331	363	399	437	480
Promotional expense		6,234	6,421	6,614	6,812	7,016	7,227	7,444	7,667	7,897	8,134
Insurance expense		17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778
Professional fees (legal, audit, etc.)		3,117	3,211	3,307	3,406	3,508	3,613	3,722	3,834	3,949	4,067
Depreciation expense		36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924
Amortization expense		1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428
Miscellaneous expense		-	-	-	-	-	-	-	-	-	-
Subtotal		137,592	142,229	147,400	153,151	159,533	166,599	174,408	183,025	192,518	202,964
Operating Income		47,144	48,050	48,587	48,715	48,389	47,561	46,176	44,177	41,500	38,075
Other income		25	-	-	-	-	-	862	2,786	5,192	10,150
Gain / (loss) on sale of assets		-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes		47,169	48,050	48,587	48,715	48,389	47,561	47,038	46,963	46,692	48,225
Interest expense		43,875	42,480	37,723	30,345	21,715	11,193	3,511	-	-	-
Earnings Before Tax		3,294	5,570	10,864	18,370	26,674	36,368	43,527	46,963	46,692	48,225
Taxable earnings for the year		3,294	5,570	10,864	18,370	26,674	36,368	43,527	46,963	46,692	48,225
Tax		6,234	6,421	6,614	6,812	7,016	7,227	7,444	7,667	7,897	8,134
NET PROFIT/(LOSS) AFTER TAX		(2,940)	(851)	4,251	11,558	19,658	29,141	36,083	39,296	38,795	40,091
Balance brought forward			(2,940)	(3,791)	460	12,017	31,675	60,816	96,899	81,717	72,307
Total profit available for appropriation		(2,940)	(3,791)	460	12,017	31,675	60,816	96,899	136,195	120,512	112,398
Dividend		-	-	-	-	-	-	-	54,478	48,205	44,959
Balance carried forward		(2,940)	(3,791)	460	12,017	31,675	60,816	96,899	81,717	72,307	67,439

Statement Summaries										Count		12		SMEDA					
Balance Sheet														Rs. in 000's					
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10								
Assets																			
<i>Current assets</i>																			
Cash & Bank	500	-	-	-	-	-	-	17,240	38,475	65,370	137,626								
Accounts receivable	-	25,975	52,729	54,311	55,941	57,619	59,347	61,128	62,962	64,851	66,796								
Finished goods inventory	-	21,933	22,591	23,269	23,967	24,686	25,427	26,190	26,975	27,784	28,618								
Equipment spare part inventory	734	770	809	849	892	937	983	1,032	1,084	1,138	-								
Raw material inventory	30,894	31,821	32,776	33,759	34,772	35,815	36,889	37,996	39,136	40,310	-								
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-								
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-								
Pre-paid insurance	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778	-								
Total Current Assets	49,905	96,499	123,127	124,633	126,238	127,945	129,758	148,919	172,187	201,231	233,040								
<i>Fixed assets</i>																			
Land	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725								
Building/Infrastructure	28,213	26,802	25,392	23,981	22,570	21,160	19,749	18,339	16,928	15,517	14,107								
Machinery & equipment	352,014	316,813	281,611	246,410	211,209	176,007	140,806	105,604	70,403	35,201	-								
Furniture & fixtures	248	223	198	173	149	124	99	74	50	25	-								
Office vehicles	2,514	2,263	2,011	1,760	1,508	1,257	1,006	754	503	251	-								
Office equipment	360	324	288	252	216	180	144	108	72	36	-								
Total Fixed Assets	385,074	348,150	311,226	274,301	237,377	200,453	163,529	126,604	89,680	52,756	15,832								
<i>Intangible assets</i>																			
Pre-operation costs	14,285	12,856	11,428	9,999	8,571	7,142	5,714	4,285	2,857	1,428	-								
Training costs	-	-	-	-	-	-	-	-	-	-	-								
Total Intangible Assets	14,285	12,856	11,428	9,999	8,571	7,142	5,714	4,285	2,857	1,428	-								
TOTAL ASSETS	449,264	457,505	445,780	408,933	372,186	335,540	299,000	279,809	264,725	255,416	248,871								
Liabilities & Shareholders' Equity																			
<i>Current liabilities</i>																			
Accounts payable	-	2,676	2,757	2,841	2,928	3,017	3,109	3,204	3,302	3,403	1,727								
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-								
Short term debt	-	46,946	80,960	92,386	105,538	121,143	55,370	-	-	-	-								
Other liabilities	-	-	-	-	-	-	-	-	-	-	-								
Total Current Liabilities	-	49,622	83,717	95,227	108,466	124,160	58,479	3,204	3,302	3,403	1,727								
<i>Other liabilities</i>																			
Lease payable	-	-	-	-	-	-	-	-	-	-	-								
Deferred tax	-	-	-	-	-	-	-	-	-	-	-								
Long term debt	269,558	231,118	186,149	133,541	71,997	0	-	-	-	-	-								
Total Long Term Liabilities	269,558	231,118	186,149	133,541	71,997	0	-	-	-	-	-								
<i>Shareholders' equity</i>																			
Paid-up capital	179,705	179,705	179,705	179,705	179,705	179,705	179,705	179,705	179,705	179,705	179,705								
Retained earnings	-	(2,940)	(3,791)	460	12,017	31,675	60,816	96,899	81,717	72,307	67,439								
Total Equity	179,705	176,765	175,914	180,165	191,723	211,380	240,521	276,605	261,423	252,013	247,144								
TOTAL CAPITAL AND LIABIL	449,264	457,505	445,780	408,933	372,186	335,540	299,000	279,809	264,725	255,416	248,871								

Statement Summaries										Count		12		SMEDA					
Cash Flow Statement														Rs. in 000's					
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10								
<i>Operating activities</i>																			
Net profit	-	(2,940)	(851)	4,251	11,558	19,658	29,141	36,083	39,296	38,795	40,091								
Add: depreciation expense	-	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924								
amortization expense	-	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428								
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-								
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-								
Accounts receivable	-	(25,975)	(26,754)	(1,582)	(1,629)	(1,678)	(1,729)	(1,780)	(1,834)	(1,889)	(1,946)								
Equipment inventory	(734)	(37)	(39)	(40)	(42)	(45)	(47)	(49)	(52)	(54)	(57)								
Raw material inventory	(30,894)	(927)	(955)	(983)	(1,013)	(1,043)	(1,074)	(1,107)	(1,140)	(1,174)	(1,208)								
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-								
Advance insurance premium	(17,777)	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778								
Accounts payable	-	2,676	82	84	87	89	92	95	98	101	(1,676)								
Other liabilities	-	-	-	-	-	-	-	-	-	-	-								
Cash provided by operations	(49,405)	12,928	11,613	41,859	49,090	57,111	66,513	73,372	76,499	75,909	118,048								
<i>Financing activities</i>																			
Change in long term debt	269,558	(38,440)	(44,969)	(52,608)	(61,544)	(71,997)	(0)	-	-	-	-								
Change in short term debt	-	46,946	34,014	11,426	13,152	15,605	(65,773)	(55,370)	-	-	-								
Change in export re-finance fac	-	-	-	-	-	-	-	-	-	-	-								
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-								
Land lease payment	-	-	-	-	-	-	-	-	-	-	-								
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-								
Issuance of shares	179,705	-	-	-	-	-	-	-	-	-	-								
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-								
Cash provided by / (used for) financ	449,264	8,506	(10,955)	(41,182)	(48,392)	(56,392)	(65,773)	(55,370)	-	-	-								
<i>Investing activities</i>																			
Capital expenditure	(399,359)	-	-	-	-	-	-	-	-	-	-								
Acquisitions	-	-	-	-	-	-	-	-	-	-	-								
Cash (used for) / provided by invest	(399,359)	-	-	-	-	-	-	-	-	-	-								
NET CASH	500	21,433	658	678	698	719	741	18,003	76,499	75,909	118,048								
Cash balance brought forward	-	500	21,933	22,591	23,269	23,967	24,686	25,427	43,429	65,450	93,155								
Cash available for appropriation	500	21,933	22,591	23,269	23,967	24,686	25,427	43,429	119,928	141,360	211,203								
Dividend	-	-	-	-	-	-	-	-	54,478	48,205	44,959								
Cash carried forward	500	21,933	22,591	23,269	23,967	24,686	25,427	43,429	65,450	93,155	166,244								

Spinning Model Assumptions
Key Variables

SMEDA

Count

1 Bag = 100 lbs of yarn

Revenue related	Value	Rationale
Sales price / bag for combed	5,500	Market driven average price
Sales price / bag for carded	4,700	Market driven average price
Sales price growth rate	3%	Conservative Textile Vision 2005 estimates
Combed Production (Bags/year)	34,738	40 and 80 count yarn is 100% combed, 20 and 30 count is 25% combed
Carded Production (Bags/year)	97,226	12 count is 100% carded, 20 and 30 count yarn is 75% carded

Cost related	Value	Rationale
COGS 1 (cost of raw cotton/bag)	2,802	Market driven average price for 12-40 counts, for 80 count PIMA cotton average price
COGS growth rate	3%	Conservative Textile Vision 2005 estimates
Op costs 1 (maintenance/bag)	68	Based on industry provided information
Operation costs growth rate	3%	Conservative Textile Vision 2005 estimates
Variable electric load (KW)	1,832	Based on per machine electricity consumption
Fixed electric load (KW)	224	Based on total fixed lighting load for management and factory areas
Office expenses (stationary, entertainment, etc.)	1.0%	% of administration expense
Promotional expense	1.0%	% of revenue
Machinery & equipment insurance rate	5.0%	% of book value
Office vehicles insurance rate	7.0%	% of book value
Professional fees (legal, audit, consultants, etc.)	0.5%	% of revenue
Interest rate on short term debt	12%	Current Market Rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey

Operations related	Value	Rationale
Hours operational/day	24	Continuous operations
Days operational/year	360	Number of working days a year

Other	Value	Rationale
Dividend rate	40%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure	Flat Turnover Tax	1% Applicable Tax

Financial Evaluation of the Spinning Industry

SMEDA

Key Variables	(Rs. in actuals)
Yarn Count	20
Total Investment in Project	449,268,246
Debt	60% 269,560,948
Equity	40% 179,707,298
Interest Rate	16%
Interest Tenure	5
Interest Payments per year	4
Sales price (Rs) / lb of carded yarn	47
Sales price (Rs) / lb of combed yarn	55
Total Number of Employees	593

Sensitivity
Analysis

Total Cash Flow	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	64,525	83,467	111,939	114,941	118,467	118,970	117,170	116,253	115,558	238,165
Interest Costs	41,868	36,159	27,552	17,795	7,341	-	-	-	-	-
Principal Repayment	23,158	47,308	65,553	61,544	71,998	0	-	-	-	-
Total Debt Servicing ^a	65,025	83,467	93,104	79,339	79,339	0	-	-	-	-
Net Cash Flow to Investors	(500)	-	18,834	35,602	39,128	118,970	117,170	116,253	115,558	238,165

	Equity	Project
IRR	22%	20%
Payback Period (yrs)	6.72	5.65

^aIncludes leases if any

Statement Summaries		Count	20	SMEDA
Initial Investment				
Capital Investment Rs. in 000's				
Land			1,725	
Building/Infrastructure			28,213	
Machinery & equipment			352,014	
Furniture & fixtures			248	
Office vehicles			2,514	
Office equipment			360	
Pre-operating costs			14,358	
Training costs			-	
Total Capital Costs			399,432	
Working Capital Rs. in 000's				
Equipment spare part inventory			743	
Raw material inventory			30,816	
Upfront land lease rental			-	
Upfront machinery & equipment lease rental			-	
Upfront office equipment lease rental			-	
Upfront office vehicles lease rental			-	
Upfront insurance payment			17,777	
Cash			500	
Total Working Capital			49,836	
Total Investment 449,268				
Initial Financing Rs. in 000's				
Debt			269,561	
Equity			179,707	
Export re-finance facility			-	

Statement Summaries		Count	20	SMEDA						
Income Statement										
				Rs. in 000's						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	662,654	682,534	703,010	724,100	745,823	768,198	791,244	814,981	839,431	864,614
Cost of goods sold	437,093	450,206	463,712	477,623	491,952	506,710	521,912	537,569	553,696	570,307
Gross Profit	225,561	232,328	239,298	246,477	253,871	261,488	269,332	277,412	285,735	294,307
<i>General administration & selling expenses</i>										
Administration expense	21,318	23,394	25,671	28,171	30,913	33,923	37,226	40,850	44,828	49,192
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	59,208	63,944	69,060	74,585	80,551	86,995	93,955	101,471	109,589	118,356
Communications expense (phone, fax, etc.)	-	-	-	-	-	-	-	-	-	-
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	213	234	257	282	309	339	372	409	448	492
Promotional expense	6,627	6,825	7,030	7,241	7,458	7,682	7,912	8,150	8,394	8,646
Insurance expense	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778
Professional fees (legal, audit, etc.)	3,313	3,413	3,515	3,621	3,729	3,841	3,956	4,075	4,197	4,323
Depreciation expense	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924
Amortization expense	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	146,815	152,169	158,114	164,702	171,987	180,029	188,893	198,648	209,372	221,147
Operating Income	78,746	80,159	81,184	81,775	81,884	81,458	80,440	78,764	76,363	73,159
Other income	25	-	942	3,664	7,400	8,659	8,216	9,324	11,391	16,133
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	78,771	80,159	82,126	85,438	89,284	90,117	88,656	88,089	87,754	89,293
Interest expense	41,868	36,159	27,552	17,795	7,341	-	-	-	-	-
Earnings Before Tax	36,903	44,000	54,574	67,644	81,943	90,117	88,656	88,089	87,754	89,293
Taxable earnings for the year	36,903	44,000	54,574	67,644	81,943	90,117	88,656	88,089	87,754	89,293
Tax	6,627	6,825	7,030	7,241	7,458	7,682	7,912	8,150	8,394	8,646
NET PROFIT/(LOSS) AFTER TAX	30,277	37,175	47,544	60,403	74,485	82,435	80,744	79,939	79,359	80,647
Balance brought forward		30,277	67,452	114,995	175,398	249,883	199,391	168,081	148,812	136,903
Total profit available for appropriation	30,277	67,452	114,995	175,398	249,883	332,318	280,134	248,019	228,171	217,549
Dividend	-	-	-	-	-	132,927	112,054	99,208	91,268	87,020
Balance carried forward	30,277	67,452	114,995	175,398	249,883	199,391	168,081	148,812	136,903	130,530

Statement Summaries		Count										SMEDA
Balance Sheet		20										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets												
<i>Current assets</i>												
Cash & Bank	500	-	-	18,834	54,436	93,564	79,606	84,722	101,767	126,057	196,611	
Accounts receivable	-	27,611	56,050	57,731	59,463	61,247	63,084	64,977	66,926	68,934	71,002	
Finished goods inventory	-	21,855	22,510	23,186	23,881	24,598	25,336	26,096	26,878	27,685	28,515	
Equipment spare part inventory	743	781	820	861	904	949	996	1,046	1,098	1,153	-	
Raw material inventory	30,816	31,740	32,692	33,673	34,683	35,724	36,796	37,900	39,037	40,208	-	
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid insurance	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778	-	
Total Current Assets	49,836	97,985	126,293	146,728	184,033	224,969	212,929	220,073	239,262	265,814	296,128	
<i>Fixed assets</i>												
Land	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	
Building/Infrastructure	28,213	26,802	25,392	23,981	22,570	21,160	19,749	18,339	16,928	15,517	14,107	
Machinery & equipment	352,014	316,813	281,611	246,410	211,209	176,007	140,806	105,604	70,403	35,201	-	
Furniture & fixtures	248	223	198	173	149	124	99	74	50	25	-	
Office vehicles	2,514	2,263	2,011	1,760	1,508	1,257	1,006	754	503	251	-	
Office equipment	360	324	288	252	216	180	144	108	72	36	-	
Total Fixed Assets	385,074	348,150	311,226	274,301	237,377	200,453	163,529	126,604	89,680	52,756	15,832	
<i>Intangible assets</i>												
Pre-operation costs	14,358	12,923	11,487	10,051	8,615	7,179	5,743	4,308	2,872	1,436	-	
Training costs	-	-	-	-	-	-	-	-	-	-	-	
Total Intangible Assets	14,358	12,923	11,487	10,051	8,615	7,179	5,743	4,308	2,872	1,436	-	
TOTAL ASSETS	449,268	459,057	449,005	431,080	430,025	432,601	382,201	350,985	331,814	320,006	311,960	
Liabilities & Shareholders' Equity												
<i>Current liabilities</i>												
Accounts payable	-	2,670	2,751	2,835	2,922	3,011	3,103	3,197	3,295	3,396	1,723	
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-	
Short term debt	-	15,283	12,944	-	-	-	-	-	-	-	-	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Total Current Liabilities	-	17,953	15,696	2,835	2,922	3,011	3,103	3,197	3,295	3,396	1,723	
<i>Other liabilities</i>												
Lease payable	-	-	-	-	-	-	-	-	-	-	-	
Deferred tax	-	-	-	-	-	-	-	-	-	-	-	
Long term debt	269,561	231,121	186,151	133,542	71,998	0	-	-	-	-	-	
Total Long Term Liabilities	269,561	231,121	186,151	133,542	71,998	0	-	-	-	-	-	
<i>Shareholders' equity</i>												
Paid-up capital	179,707	179,707	179,707	179,707	179,707	179,707	179,707	179,707	179,707	179,707	179,707	
Retained earnings	-	30,277	67,452	114,995	175,398	249,883	199,391	168,081	148,812	136,903	130,530	
Total Equity	179,707	209,984	247,159	294,703	355,105	429,590	379,098	347,788	328,519	316,610	310,237	
TOTAL CAPITAL AND LIABIL	449,268	459,057	449,005	431,080	430,025	432,601	382,201	350,985	331,814	320,006	311,960	

Statement Summaries		Count										SMEDA
Cash Flow Statement		20										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>												
Net profit	-	30,277	37,175	47,544	60,403	74,485	82,435	80,744	79,939	79,359	80,647	
Add: depreciation expense	-	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	
Amortization expense	-	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	
Lease interest exp.	-	-	-	-	-	-	-	-	-	-	-	
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-	
Accounts receivable	-	(27,611)	(28,439)	(1,681)	(1,732)	(1,784)	(1,837)	(1,893)	(1,949)	(2,008)	(2,068)	
Equipment inventory	(743)	(37)	(39)	(41)	(43)	(45)	(47)	(50)	(52)	(55)	1,153	
Raw material inventory	(30,816)	(924)	(952)	(981)	(1,010)	(1,041)	(1,072)	(1,104)	(1,137)	(1,171)	40,208	
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-	
Advance insurance premium	(17,777)	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	
Accounts payable	-	2,670	81	84	86	89	92	95	98	101	(1,672)	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by operations	(49,336)	44,512	47,964	85,062	97,842	111,842	119,708	117,930	117,035	116,364	158,405	
<i>Financing activities</i>												
Change in long term debt	269,561	(38,440)	(44,970)	(52,608)	(61,544)	(71,998)	(0)	-	-	-	-	
Change in short term debt	-	15,283	(2,338)	(12,944)	-	-	-	-	-	-	-	
Change in export re-finance fac	-	-	-	-	-	-	-	-	-	-	-	
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-	
Land lease payment	-	-	-	-	-	-	-	-	-	-	-	
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-	
Issuance of shares	179,707	-	-	-	-	-	-	-	-	-	-	
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by / (used for) financ	449,268	(23,158)	(47,308)	(65,553)	(61,544)	(71,998)	(0)	-	-	-	-	
<i>Investing activities</i>												
Capital expenditure	(399,432)	-	-	-	-	-	-	-	-	-	-	
Acquisitions	-	-	-	-	-	-	-	-	-	-	-	
Cash (used for) / provided by invest	(399,432)	-	-	-	-	-	-	-	-	-	-	
NET CASH	500	21,355	686	19,509	36,297	39,844	119,708	117,930	117,035	116,364	158,405	
Cash balance brought forward	-	500	21,855	22,510	42,020	78,317	118,161	104,942	110,818	128,646	153,741	
Cash available for appropriation	500	21,855	22,510	42,020	78,317	118,161	237,869	222,872	227,853	245,010	312,146	
Dividend	-	-	-	-	-	-	132,927	112,054	99,208	91,268	87,020	
Cash carried forward	500	21,855	22,510	42,020	78,317	118,161	104,942	110,818	128,646	153,741	225,127	

Spinning Model Assumptions
Key Variables

SMEDA

Count 1 Bag = 100 lbs of yarn

Revenue related	Value	Rationale
Sales price / bag for combed	6,600	Market driven average price
Sales price / bag for carded	6,100	Market driven average price
Sales price growth rate	3%	Conservative Textile Vision 2005 estimates
Combed Production (Bags/year)	19,030	40 and 80 count yarn is 100% combed, 20 and 30 count is 25% combed
Carded Production (Bags/year)	53,263	12 count is 100% carded, 20 and 30 count yarn is 75% carded

Cost related	Value	Rationale
COGS 1 (cost of raw cotton/bag)	2,802	Market driven average price for 12-40 counts, for 80 count PIMA cotton average price
COGS growth rate	3%	Conservative Textile Vision 2005 estimates
Op costs 1 (maintenance/bag)	109	Based on industry provided information
Operation costs growth rate	3%	Conservative Textile Vision 2005 estimates
Variable electric load (KW)	1,615	Based on per machine electricity consumption
Fixed electric load (KW)	224	Based on total fixed lighting load for management and factory areas
Office expenses (stationary, entertainment,)	1.0%	% of administration expense
Promotional expense	1.0%	% of revenue
Machinery & equipment insurance rate	5.0%	% of book value
Office vehicles insurance rate	7.0%	% of book value
Professional fees (legal, audit, consultants, etc.)	0.5%	% of revenue
Interest rate on short term debt	12%	Current Market Rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey

Operations related	Value	Rationale
Hours operational/day	24	Continuous operations
Days operational/year	360	Number of working days a year

Other	Value	Rationale
Dividend rate	40%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure	Flat Turnover Tax	1% Applicable Tax

Financial Evaluation of the Spinning Industry

SMEDA

Key Variables	(Rs. in actuals)
Yarn Count	30
Total Investment in Project	434,946,802
Debt	60% 260,968,081
Equity	40% 173,978,721
Interest Rate	16%
Interest Tenure	5
Interest Payments per year	4
Sales price (Rs) / lb of carded yarn	61
Sales price (Rs) / lb of combed yarn	66
Total Number of Employees	540

Sensitivity
Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	84,932	97,775	117,987	117,380	119,081	122,357	124,540	126,648	128,391	221,385
Interest Costs	39,595	33,274	25,879	17,228	7,107	-	-	-	-	-
Principal Repayment	37,215	43,536	50,931	59,582	69,703	0	-	-	-	-
Total Debt Servicing*	76,810	76,810	76,810	76,810	76,810	0	-	-	-	-
Net Cash Flow to Investors	8,122	20,965	41,177	40,570	42,271	122,357	124,540	126,648	128,391	221,385

	Equity	Project
IRR	27%	23%
Payback Period (yrs)	6.17	5.14

*Includes leases if any

Statement Summaries		Count	30	SMEDA
Initial Investment		Count	30	SMEDA
Capital Investment		Rs. in 000's		
Land			1,725	
Building/Infrastructure			28,213	
Machinery & equipment			352,014	
Furniture & fixtures			248	
Office vehicles			2,514	
Office equipment			360	
Pre-operating costs			14,057	
Training costs			-	
Total Capital Costs			399,131	
Working Capital		Rs. in 000's		
Equipment spare part inventory			657	
Raw material inventory			16,882	
Upfront land lease rental			-	
Upfront machinery & equipment lease rental			-	
Upfront office equipment lease rental			-	
Upfront office vehicles lease rental			-	
Upfront insurance payment			17,777	
Cash			500	
Total Working Capital			35,815	
Total Investment			434,947	
Initial Financing		Rs. in 000's		
Debt			260,968	
Equity			173,979	
Export re-finance facility			-	

Statement Summaries		Count	30	SMEDA							
Income Statement		Count	30	SMEDA							
		Rs. in 000s									
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue		458,521	472,276	486,444	501,038	516,069	531,551	547,498	563,922	580,840	598,265
Cost of goods sold		242,448	249,721	257,213	264,929	272,877	281,064	289,495	298,180	307,126	316,339
Gross Profit		216,073	222,555	229,232	236,108	243,192	250,487	258,002	265,742	273,714	281,926
<i>General administration & selling expenses</i>											
Administration expense		19,940	21,881	24,011	26,349	28,914	31,730	34,819	38,209	41,929	46,011
Land lease rental expense		-	-	-	-	-	-	-	-	-	-
Utilities expense		53,713	58,010	62,651	67,663	73,076	78,922	85,236	92,055	99,419	107,373
Communications expense (phone, fax, etc.)		-	-	-	-	-	-	-	-	-	-
Repairs & renewals		-	-	-	-	-	-	-	-	-	-
Office vehicles running expense		-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)		199	219	240	263	289	317	348	382	419	460
Promotional expense		4,585	4,723	4,864	5,010	5,161	5,316	5,475	5,639	5,808	5,983
Insurance expense		17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778
Professional fees (legal, audit, etc.)		2,293	2,361	2,432	2,505	2,580	2,658	2,737	2,820	2,904	2,991
Depreciation expense		36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924
Amortization expense		1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406
Miscellaneous expense		-	-	-	-	-	-	-	-	-	-
Subtotal		136,837	141,523	146,750	152,565	159,017	166,161	174,056	182,768	192,365	202,926
Operating Income		79,236	81,032	82,481	83,544	84,175	84,327	83,946	82,975	81,349	79,000
Other income		456	1,910	2,327	866	2,151	5,496	8,288	11,602	15,213	20,144
Gain / (loss) on sale of assets		-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes		79,692	82,942	84,808	84,410	86,326	89,823	92,234	94,577	96,562	99,144
Interest expense		39,595	33,274	25,879	17,228	7,107	-	-	-	-	-
Earnings Before Tax		40,097	49,669	58,930	67,182	79,219	89,823	92,234	94,577	96,562	99,144
Taxable earnings for the year		40,097	49,669	58,930	67,182	79,219	89,823	92,234	94,577	96,562	99,144
Tax		4,585	4,723	4,864	5,010	5,161	5,316	5,475	5,639	5,808	5,983
NET PROFIT/(LOSS) AFTER TAX		35,512	44,946	54,065	62,172	74,058	84,507	86,759	88,937	90,753	93,161
Balance brought forward		-	35,512	80,458	80,714	85,731	159,789	146,578	140,002	137,364	136,870
Total profit available for appropriation		35,512	80,458	134,523	142,886	159,789	244,297	233,337	228,940	228,117	230,032
Dividend		-	-	53,809	57,154	-	97,719	93,335	91,576	91,247	92,013
Balance carried forward		35,512	80,458	80,714	85,731	159,789	146,578	140,002	137,364	136,870	138,019

Statement Summaries		Count										SMEDA
Balance Sheet		30										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets												
<i>Current assets</i>												
Cash & Bank	500	8,622	29,587	16,955	370	42,641	67,279	98,485	133,556	170,701	232,180	
Accounts receivable	-	19,105	38,783	39,947	41,145	42,379	43,651	44,960	46,309	47,698	49,129	
Finished goods inventory	-	12,122	12,486	12,861	13,246	13,644	14,053	14,475	14,909	15,356	15,817	
Equipment spare part inventory	657	690	724	761	799	839	880	924	971	1,019	-	
Raw material inventory	16,882	17,388	17,910	18,447	19,000	19,571	20,158	20,762	21,385	22,027	-	
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid insurance	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778	-	
Total Current Assets	35,815	73,926	113,712	101,413	85,227	127,962	153,132	184,940	220,686	258,579	297,126	
<i>Fixed assets</i>												
Land	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	
Building/Infrastructure	28,213	26,802	25,392	23,981	22,570	21,160	19,749	18,339	16,928	15,517	14,107	
Machinery & equipment	352,014	316,813	281,611	246,410	211,209	176,007	140,806	105,604	70,403	35,201	-	
Furniture & fixtures	248	223	198	173	149	124	99	74	50	25	-	
Office vehicles	2,514	2,263	2,011	1,760	1,508	1,257	1,006	754	503	251	-	
Office equipment	360	324	288	252	216	180	144	108	72	36	-	
Total Fixed Assets	385,074	348,150	311,226	274,301	237,377	200,453	163,529	126,604	89,680	52,756	15,832	
<i>Intangible assets</i>												
Pre-operation costs	14,057	12,652	11,246	9,840	8,434	7,029	5,623	4,217	2,811	1,406	-	
Training costs	-	-	-	-	-	-	-	-	-	-	-	
Total Intangible Assets	14,057	12,652	11,246	9,840	8,434	7,029	5,623	4,217	2,811	1,406	-	
TOTAL ASSETS	434,947	434,728	436,183	385,555	331,038	335,443	322,284	315,761	313,178	312,741	312,958	
Liabilities & Shareholders' Equity												
<i>Current liabilities</i>												
Accounts payable	-	1,484	1,530	1,577	1,625	1,675	1,727	1,780	1,835	1,892	960	
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-	
Short term debt	-	-	-	-	-	-	-	-	-	-	-	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Total Current Liabilities	-	1,484	1,530	1,577	1,625	1,675	1,727	1,780	1,835	1,892	960	
<i>Other liabilities</i>												
Lease payable	-	-	-	-	-	-	-	-	-	-	-	
Deferred tax	-	-	-	-	-	-	-	-	-	-	-	
Long term debt	260,968	223,753	180,217	129,285	69,703	0	-	-	-	-	-	
Total Long Term Liabilities	260,968	223,753	180,217	129,285	69,703	0	-	-	-	-	-	
<i>Shareholders' equity</i>												
Paid-up capital	173,979	173,979	173,979	173,979	173,979	173,979	173,979	173,979	173,979	173,979	173,979	
Retained earnings	-	35,512	80,458	80,714	85,731	159,789	146,578	140,002	137,364	136,870	138,019	
Total Equity	173,979	209,491	254,437	254,693	259,710	333,768	320,557	313,981	311,342	310,849	311,998	
TOTAL CAPITAL AND LIABIL	434,947	434,728	436,183	385,555	331,038	335,443	322,284	315,761	313,178	312,741	312,958	

Statement Summaries		Count										SMEDA
Cash Flow Statement		30										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities												
Net profit	-	35,512	44,946	54,065	62,172	74,058	84,507	86,759	88,937	90,753	93,161	
Add: depreciation expense	-	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	
Amortization expense	-	1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406	1,406	
Less: interest exp.	-	-	-	-	-	-	-	-	-	-	-	
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-	
Accounts receivable	-	(19,105)	(19,678)	(1,163)	(1,198)	(1,234)	(1,271)	(1,310)	(1,349)	(1,389)	(1,431)	
Equipment inventory	(657)	(33)	(34)	(36)	(38)	(40)	(42)	(44)	(46)	(49)	(51)	
Raw material inventory	(16,882)	(506)	(522)	(537)	(553)	(570)	(587)	(605)	(623)	(642)	(662)	
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-	
Advance insurance premium	(17,777)	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	
Accounts payable	-	1,484	46	47	49	50	52	53	55	57	(931)	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by operations	(35,315)	57,459	64,865	92,483	100,538	112,371	122,766	124,962	127,082	128,838	153,953	
Financing activities												
Change in long term debt	260,968	(37,215)	(43,536)	(50,931)	(59,582)	(69,703)	(0)	-	-	-	-	
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-	
Change in export re-finance fac	-	-	-	-	-	-	-	-	-	-	-	
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-	
Land lease payment	-	-	-	-	-	-	-	-	-	-	-	
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-	
Issuance of shares	173,979	-	-	-	-	-	-	-	-	-	-	
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by / (used for) financ	434,947	(37,215)	(43,536)	(50,931)	(59,582)	(69,703)	(0)	-	-	-	-	
Investing activities												
Capital expenditure	(399,131)	-	-	-	-	-	-	-	-	-	-	
Acquisitions	-	-	-	-	-	-	-	-	-	-	-	
Cash (used for) / provided by invest	(399,131)	-	-	-	-	-	-	-	-	-	-	
NET CASH	500	20,244	21,328	41,551	40,956	42,668	122,766	124,962	127,082	128,838	153,953	
Cash balance brought forward	-	500	20,744	42,073	29,815	13,617	56,285	81,332	112,959	148,465	186,057	
Cash available for appropriation	500	20,744	42,073	83,624	70,771	56,285	179,051	206,294	240,041	277,304	340,010	
Dividend	-	-	-	53,809	57,154	-	97,719	93,335	91,576	91,247	92,013	
Cash carried forward	500	20,744	42,073	29,815	13,617	56,285	81,332	112,959	148,465	186,057	247,997	

Spinning Model Assumptions
Key Variables

SMEDA

Count 1 Bag = 100 lbs of yarn

Revenue related	Value	Rationale
Sales price / bag for combed	8,000	Market driven average price
Sales price / bag for carded	-	Market driven average price
Sales price growth rate	3%	Conservative Textile Vision 2005 estimates
Combed Production (Bags/year)	45,900	40 and 80 count yarn is 100% combed, 20 and 30 count is 25% combed
Carded Production (Bags/year)	-	12 count is 100% carded, 20 and 30 count yarn is 75% carded

Cost related	Value	Rationale
COGS 1 (cost of raw cotton/bag)	2,802	Market driven average price for 12-40 counts, for 80 count PIMA cotton average price
COGS growth rate	3%	Conservative Textile Vision 2005 estimates
Op costs 1 (maintenance/bag)	165	Based on industry provided information
Operation costs growth rate	3%	Conservative Textile Vision 2005 estimates
Variable electric load (KW)	1,569	Based on per machine electricity consumption
Fixed electric load (KW)	224	Based on total fixed lighting load for management and factory areas
Office expenses (stationary, entertainment, etc.)	1.0%	% of administration expense
Promotional expense	1.0%	% of revenue
Machinery & equipment insurance rate	5.0%	% of book value
Office vehicles insurance rate	7.0%	% of book value
Professional fees (legal, audit, consultants, etc.)	0.5%	% of revenue
Interest rate on short term debt	12%	Current Market Rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey

Operations related	Value	Rationale
Hours operational/day	24	Continuous operations
Days operational/year	360	Number of working days a year

Other	Value	Rationale
Dividend rate	40%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure	Flat Turnover Tax	1% Applicable Tax

Financial Evaluation of the Spinning Industry

SMEDA

Key Variables		(Rs. in actuals)
Yarn Count		40
Total Investment in Project		428,568,476
Debt	60%	257,141,086
Equity	40%	171,427,391
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		4
Sales price (Rs) / lb of carded yarn		-
Sales price (Rs) / lb of combed yarn		80
Total Number of Employees		522

Sensitivity
Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	95,810	104,055	120,843	121,992	124,917	129,120	132,122	134,927	137,301	216,896
Interest Costs	39,014	32,786	25,499	16,975	7,003	-	-	-	-	-
Principal Repayment	36,669	42,898	50,184	58,709	68,681	0	-	-	-	-
Total Debt Servicing ^a	75,684	75,684	75,684	75,684	75,684	0	-	-	-	-
Net Cash Flow to Investors	20,126	28,371	45,159	46,309	49,233	129,120	132,122	134,927	137,301	216,896

	Equity	Project
IRR	31%	25%
Payback Period (yrs)	5.63	4.88

^aIncludes leases if any

Statement Summaries		Count	40	SMEDA
Initial Investment				
Capital Investment Rs. in 000's				
Land			1,725	
Building/Infrastructure			28,213	
Machinery & equipment			352,014	
Furniture & fixtures			248	
Office vehicles			2,514	
Office equipment			360	
Pre-operating costs			13,868	
Training costs			-	
Total Capital Costs			398,942	
Working Capital Rs. in 000's				
Equipment spare part inventory			631	
Raw material inventory			10,719	
Upfront land lease rental			-	
Upfront machinery & equipment lease rental			-	
Upfront office equipment lease rental			-	
Upfront office vehicles lease rental			-	
Upfront insurance payment			17,777	
Cash			500	
Total Working Capital			29,626	
Total Investment 428,568				
Initial Financing Rs. in 000's				
Debt			257,141	
Equity			171,427	
Export re-finance facility			-	

Statement Summaries		Count	40	SMEDA							
Income Statement											
											Rs. in 000's
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue		372,294	383,462	394,966	406,815	419,020	431,590	444,538	457,874	471,610	485,759
Cost of goods sold		156,500	161,195	166,031	171,012	176,143	181,427	186,870	192,476	198,250	204,197
Gross Profit		215,793	222,267	228,935	235,803	242,877	250,163	257,668	265,398	273,360	281,561
<i>General administration & selling expenses</i>											
Administration expense		19,468	21,363	23,443	25,726	28,231	30,979	33,995	37,305	40,937	44,923
Land lease rental expense		-	-	-	-	-	-	-	-	-	-
Utilities expense		52,552	56,757	61,297	66,201	71,497	77,217	83,394	90,065	97,271	105,052
Communications expense (phone, fax, etc.)		-	-	-	-	-	-	-	-	-	-
Repairs & renewals		-	-	-	-	-	-	-	-	-	-
Office vehicles running expense		-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)		195	214	234	257	282	310	340	373	409	449
Promotional expense		3,723	3,835	3,950	4,068	4,190	4,316	4,445	4,579	4,716	4,858
Insurance expense		17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778
Professional fees (legal, audit, etc.)		1,861	1,917	1,975	2,034	2,095	2,158	2,223	2,289	2,358	2,429
Depreciation expense		36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924
Amortization expense		1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387
Miscellaneous expense		-	-	-	-	-	-	-	-	-	-
Subtotal		133,887	138,396	143,432	149,041	155,272	162,179	169,819	178,256	187,558	197,800
Operating Income		81,906	83,871	85,503	86,762	87,605	87,985	87,849	87,143	85,803	83,762
Other income		268	476	732	788	3,039	7,038	10,356	14,054	17,959	22,718
Gain / (loss) on sale of assets		-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes		82,174	84,347	86,236	87,550	90,644	95,023	98,205	101,196	103,762	106,479
Interest expense		39,014	32,786	25,499	16,975	7,003	-	-	-	-	-
Earnings Before Tax		43,159	51,562	60,736	70,575	83,642	95,023	98,205	101,196	103,762	106,479
Taxable earnings for the year		43,159	51,562	60,736	70,575	83,642	95,023	98,205	101,196	103,762	106,479
Tax		3,723	3,835	3,950	4,068	4,190	4,316	4,445	4,579	4,716	4,858
NET PROFIT/(LOSS) AFTER TAX		39,436	47,727	56,787	66,507	79,451	90,707	93,760	96,618	99,046	101,622
Balance brought forward			23,662	42,833	59,772	75,767	155,219	147,556	144,789	144,844	146,334
Total profit available for appropriation		39,436	71,389	99,620	126,279	155,219	245,926	241,315	241,407	243,890	247,956
Dividend		15,775	28,556	39,848	50,512	-	98,370	96,526	96,563	97,556	99,182
Balance carried forward		23,662	42,833	59,772	75,767	155,219	147,556	144,789	144,844	146,334	148,773

Statement Summaries		Count										SMEDA
Balance Sheet		40										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets												
<i>Current assets</i>												
Cash & Bank	500	4,851	4,667	9,978	5,776	55,009	85,759	121,354	159,719	199,464	254,892	
Accounts receivable	-	15,512	31,490	32,435	33,408	34,410	35,442	36,505	37,601	38,729	39,890	
Finished goods inventory	-	7,825	8,060	8,302	8,551	8,807	9,071	9,343	9,624	9,912	10,210	
Equipment spare part inventory	631	662	696	730	767	805	845	888	932	979	-	
Raw material inventory	10,719	11,040	11,371	11,712	12,064	12,426	12,798	13,182	13,578	13,985	-	
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-	
Pre-paid insurance	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778	-	
Total Current Assets	29,626	55,890	70,505	75,601	71,231	120,345	151,027	186,606	225,008	264,846	304,992	
<i>Fixed assets</i>												
Land	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	
Building/Infrastructure	28,213	26,802	25,392	23,981	22,570	21,160	19,749	18,339	16,928	15,517	14,107	
Machinery & equipment	352,014	316,813	281,611	246,410	211,209	176,007	140,806	105,604	70,403	35,201	-	
Furniture & fixtures	248	223	198	173	149	124	99	74	50	25	-	
Office vehicles	2,514	2,263	2,011	1,760	1,508	1,257	1,006	754	503	251	-	
Office equipment	360	324	288	252	216	180	144	108	72	36	-	
Total Fixed Assets	385,074	348,150	311,226	274,301	237,377	200,453	163,529	126,604	89,680	52,756	15,832	
<i>Intangible assets</i>												
Pre-operation costs	13,868	12,482	11,095	9,708	8,321	6,934	5,547	4,161	2,774	1,387	0	
Training costs	-	-	-	-	-	-	-	-	-	-	-	
Total Intangible Assets	13,868	12,482	11,095	9,708	8,321	6,934	5,547	4,161	2,774	1,387	0	
TOTAL ASSETS	428,568	416,522	392,825	359,610	316,929	327,732	320,103	317,371	317,462	318,989	320,824	
Liabilities & Shareholders' Equity												
<i>Current liabilities</i>												
Accounts payable	-	961	990	1,021	1,053	1,086	1,120	1,155	1,191	1,228	624	
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-	
Short term debt	-	-	-	-	-	-	-	-	-	-	-	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Total Current Liabilities	-	961	990	1,021	1,053	1,086	1,120	1,155	1,191	1,228	624	
<i>Other liabilities</i>												
Lease payable	-	-	-	-	-	-	-	-	-	-	-	
Deferred tax	-	-	-	-	-	-	-	-	-	-	-	
Long term debt	257,141	220,472	177,574	127,390	68,681	0	0	0	0	0	0	
Total Long Term Liabilities	257,141	220,472	177,574	127,390	68,681	0	0	0	0	0	0	
<i>Shareholders' equity</i>												
Paid-up capital	171,427	171,427	171,427	171,427	171,427	171,427	171,427	171,427	171,427	171,427	171,427	
Retained earnings	-	23,662	42,833	59,772	75,767	155,219	147,556	144,789	144,844	146,334	148,773	
Total Equity	171,427	195,089	214,261	231,199	247,195	326,646	318,983	316,216	316,271	317,761	320,201	
TOTAL CAPITAL AND LIABIL	428,568	416,522	392,825	359,610	316,929	327,732	320,103	317,371	317,462	318,989	320,824	

Statement Summaries		Count										SMEDA
Cash Flow Statement		40										
		Rs. in 000's										
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>												
Net profit	-	39,436	47,727	56,787	66,507	79,451	90,707	93,760	96,618	99,046	101,622	
Add: depreciation expense	-	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	
amortization expense	-	1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387	1,387	
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-	
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-	
Accounts receivable	-	(15,512)	(15,978)	(945)	(973)	(1,002)	(1,032)	(1,063)	(1,095)	(1,128)	(1,162)	
Equipment inventory	(631)	(32)	(33)	(35)	(37)	(38)	(40)	(42)	(44)	(47)	979	
Raw material inventory	(10,719)	(322)	(331)	(341)	(351)	(362)	(373)	(384)	(395)	(407)	13,985	
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-	
Advance insurance premium	(17,777)	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	
Accounts payable	-	961	30	31	32	33	34	35	36	37	(605)	
Other liabilities	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by operations	(29,126)	64,620	71,504	95,586	105,266	118,170	129,384	132,394	135,207	137,590	154,908	
<i>Financing activities</i>												
Change in long term debt	257,141	(36,669)	(42,898)	(50,184)	(58,709)	(68,681)	(0)	-	-	-	-	
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-	
Change in export re-finance fac	-	-	-	-	-	-	-	-	-	-	-	
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-	
Land lease payment	-	-	-	-	-	-	-	-	-	-	-	
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-	
Issuance of shares	171,427	-	-	-	-	-	-	-	-	-	-	
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-	
Cash provided by / (used for) financ	428,568	(36,669)	(42,898)	(50,184)	(58,709)	(68,681)	(0)	-	-	-	-	
<i>Investing activities</i>												
Capital expenditure	(398,942)	-	-	-	-	-	-	-	-	-	-	
Acquisitions	-	-	-	-	-	-	-	-	-	-	-	
Cash (used for) / provided by invest	(398,942)	-	-	-	-	-	-	-	-	-	-	
NET CASH	500	27,951	28,606	45,401	46,558	49,490	129,384	132,394	135,207	137,590	154,908	
Cash balance brought forward	-	500	12,676	12,727	18,280	14,326	63,816	94,830	130,698	169,342	209,376	
Cash available for appropriation	500	28,451	41,282	58,128	64,838	63,816	193,200	227,224	265,905	306,932	364,284	
Dividend	-	15,775	28,556	39,848	50,512	-	98,370	96,526	96,563	97,556	99,182	
Cash carried forward	500	12,676	12,727	18,280	14,326	63,816	94,830	130,698	169,342	209,376	265,102	

Spinning Model Assumptions
Key Variables

SMEDA

Count 1 Bag = 100 lbs of yarn

Revenue related	Value	Rationale
Sales price / bag for combed	17,000	Market driven average price
Sales price / bag for carded	-	Market driven average price
Sales price growth rate	3%	Conservative Textile Vision 2005 estimates
Combed Production (Bags/year)	19,508	40 and 80 count yarn is 100% combed, 20 and 30 count is 25% combed
Carded Production (Bags/year)	-	12 count is 100% carded, 20 and 30 count yarn is 75% carded

Cost related	Value	Rationale
COGS 1 (cost of raw cotton/bag)	4,420	Market driven average price for 12-40 counts, for 80 count PIMA cotton average price
COGS growth rate	3%	Conservative Textile Vision 2005 estimates
Op costs 1 (maintenance/bag)	368	Based on industry provided information
Operation costs growth rate	3%	Conservative Textile Vision 2005 estimates
Variable electric load (KW)	1,511	Based on per machine electricity consumption
Fixed electric load (KW)	224	Based on total fixed lighting load for management and factory areas
Office expenses (stationary, entertainment,)	1.0%	% of administration expense
Promotional expense	1.0%	% of revenue
Machinery & equipment insurance rate	5.0%	% of book value
Office vehicles insurance rate	7.0%	% of book value
Professional fees (legal, audit, consultants, etc.)	0.5%	% of revenue
Interest rate on short term debt	12%	Current Market Rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey

Operations related	Value	Rationale
Hours operational/day	24	Continuous operations
Days operational/year	360	Number of working days a year

Other	Value	Rationale
Dividend rate	40%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure	Flat Turnover Tax	1% Applicable Tax

Financial Evaluation of the Spinning Industry

SMEDA

Key Variables		(Rs. in actuals)
Yarn Count		80
Total Investment in Project		425,315,467
Debt	60%	255,189,280
Equity	40%	170,126,187
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		4
Sales price (Rs) / lb of carded yarn		-
Sales price (Rs) / lb of combed yarn		170
Total Number of Employees		525

Sensitivity
Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	113,656	121,358	137,740	139,844	140,456	143,410	149,051	153,852	157,815	230,683
Interest Costs	38,718	32,537	25,306	16,846	6,950	-	-	-	-	-
Principal Repayment	36,391	42,572	49,804	58,263	68,160	0	-	-	-	-
Total Debt Servicing*	75,109	75,109	75,109	75,109	75,109	0	-	-	-	-
Net Cash Flow to Investors	38,547	46,249	62,631	64,735	65,347	143,410	149,051	153,852	157,815	230,683

	Equity	Project
IRR	39%	29%
Payback Period (yrs)	4.34	4.37

*Includes leases if any

Statement Summaries		Count	80	SMEDA
Initial Investment		Count	80	SMEDA
Capital Investment		Rs. in 000's		
Land			1,725	
Building/Infrastructure			28,213	
Machinery & equipment			352,014	
Furniture & fixtures			248	
Office vehicles			2,514	
Office equipment			360	
Pre-operating costs			14,181	
Training costs			-	
Total Capital Costs			399,255	
Working Capital		Rs. in 000's		
Equipment spare part inventory			599	
Raw material inventory			7,185	
Upfront land lease rental			-	
Upfront machinery & equipment lease rental			-	
Upfront office equipment lease rental			-	
Upfront office vehicles lease rental			-	
Upfront insurance payment			17,777	
Cash			500	
Total Working Capital			26,061	
Total Investment			425,315	
Initial Financing		Rs. in 000's		
Debt			255,189	
Equity			170,126	
Export re-finance facility			-	

Statement Summaries		Count	80	SMEDA							
Income Statement		Count	80	SMEDA							
		Rs. in 000's									
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue		333,794	343,807	354,122	364,745	375,688	386,958	398,567	410,524	422,840	435,525
Cost of goods sold		107,022	110,233	113,540	116,946	120,454	124,068	127,790	131,623	135,572	139,639
Gross Profit		226,772	233,575	240,582	247,800	255,234	262,891	270,777	278,901	287,268	295,886
<i>General administration & selling expenses</i>											
Administration expense		19,566	21,471	23,561	25,855	28,373	31,135	34,167	37,493	41,143	45,149
Land lease rental expense		-	-	-	-	-	-	-	-	-	-
Utilities expense		51,069	55,154	59,567	64,332	69,479	75,037	81,040	87,523	94,525	102,087
Communications expense (phone, fax, etc.)		-	-	-	-	-	-	-	-	-	-
Repairs & renewals		-	-	-	-	-	-	-	-	-	-
Office vehicles running expense		-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)		196	215	236	259	284	311	342	375	411	451
Promotional expense		3,338	3,438	3,541	3,647	3,757	3,870	3,986	4,105	4,228	4,355
Insurance expense		17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778
Professional fees (legal, audit, etc.)		1,669	1,719	1,771	1,824	1,878	1,935	1,993	2,053	2,114	2,178
Depreciation expense		36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924
Amortization expense		1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418
Miscellaneous expense		-	-	-	-	-	-	-	-	-	-
Subtotal		131,956	136,338	141,239	146,703	152,779	159,518	166,979	175,224	184,320	194,340
Operating Income		94,815	97,236	99,343	101,096	102,455	103,372	103,798	103,677	102,948	101,545
Other income		904	2,158	3,071	3,566	2,968	5,158	10,531	15,616	20,476	25,673
Gain / (loss) on sale of assets		-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes		95,719	99,395	102,414	104,663	105,423	108,530	114,329	119,293	123,424	127,218
Interest expense		38,718	32,537	25,306	16,846	6,950	-	-	-	-	-
Earnings Before Tax		57,001	66,858	77,108	87,816	98,474	108,530	114,329	119,293	123,424	127,218
Taxable earnings for the year		57,001	66,858	77,108	87,816	98,474	108,530	114,329	119,293	123,424	127,218
Tax		3,338	3,438	3,541	3,647	3,757	3,870	3,986	4,105	4,228	4,355
NET PROFIT/(LOSS) AFTER TAX		53,663	63,420	73,567	84,169	94,717	104,660	110,344	115,188	119,195	122,863
Balance brought forward		-	32,198	57,371	78,563	97,639	115,414	132,044	145,433	156,372	165,341
Total profit available for appropriation		53,663	95,618	130,938	162,732	192,356	220,074	242,388	260,621	275,568	288,203
Dividend		21,465	38,247	52,375	65,093	76,942	88,030	96,955	104,248	110,227	115,281
Balance carried forward		32,198	57,371	78,563	97,639	115,414	132,044	145,433	156,372	165,341	172,922

Statement Summaries		Count										80	SMEDA
Balance Sheet		Rs. in 000's											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
Assets													
<i>Current assets</i>													
Cash & Bank	500	17,581	25,583	35,839	35,482	23,886	79,266	131,362	180,966	228,554	284,899		
Accounts receivable	-	13,908	28,233	29,080	29,953	30,851	31,777	32,730	33,712	34,723	35,765		
Finished goods inventory	-	5,351	5,512	5,677	5,847	6,023	6,203	6,389	6,581	6,779	6,982		
Equipment spare part inventory	599	629	660	693	728	764	802	843	885	929	-		
Raw material inventory	7,185	7,401	7,623	7,852	8,087	8,330	8,580	8,837	9,102	9,375	-		
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-		
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-		
Pre-paid insurance	17,777	15,999	14,221	12,444	10,666	8,888	7,111	5,333	3,555	1,778	-		
Total Current Assets	26,061	60,869	81,833	91,585	90,763	78,743	133,739	185,495	234,802	282,138	327,646		
<i>Fixed assets</i>													
Land	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725		
Building/Infrastructure	28,213	26,802	25,392	23,981	22,570	21,160	19,749	18,339	16,928	15,517	14,107		
Machinery & equipment	352,014	316,813	281,611	246,410	211,209	176,007	140,806	105,604	70,403	35,201	-		
Furniture & fixtures	248	223	198	173	149	124	99	74	50	25	-		
Office vehicles	2,514	2,263	2,011	1,760	1,508	1,257	1,006	754	503	251	-		
Office equipment	360	324	288	252	216	180	144	108	72	36	-		
Total Fixed Assets	385,074	348,150	311,226	274,301	237,377	200,453	163,529	126,604	89,680	52,756	15,832		
<i>Intangible assets</i>													
Pre-operation costs	14,181	12,763	11,345	9,927	8,508	7,090	5,672	4,254	2,836	1,418	-		
Training costs	-	-	-	-	-	-	-	-	-	-	-		
Total Intangible Assets	14,181	12,763	11,345	9,927	8,508	7,090	5,672	4,254	2,836	1,418	-		
TOTAL ASSETS	425,315	421,781	404,403	375,813	336,648	286,286	302,940	316,353	327,318	336,312	343,478		
Liabilities & Shareholders' Equity													
<i>Current liabilities</i>													
Accounts payable	-	659	680	701	723	746	770	794	819	845	429		
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-		
Short term debt	-	-	-	-	-	-	-	-	-	-	-		
Other liabilities	-	-	-	-	-	-	-	-	-	-	-		
Total Current Liabilities	-	659	680	701	723	746	770	794	819	845	429		
<i>Other liabilities</i>													
Lease payable	-	-	-	-	-	-	-	-	-	-	-		
Deferred tax	-	-	-	-	-	-	-	-	-	-	-		
Long term debt	255,189	218,798	176,226	126,423	68,160	0	-	-	-	-	-		
Total Long Term Liabilities	255,189	218,798	176,226	126,423	68,160	0	-	-	-	-	-		
<i>Shareholders' equity</i>													
Paid-up capital	170,126	170,126	170,126	170,126	170,126	170,126	170,126	170,126	170,126	170,126	170,126		
Retained earnings	-	32,198	57,371	78,563	97,639	115,414	132,044	145,433	156,372	165,341	172,922		
Total Equity	170,126	202,324	227,497	248,689	267,765	285,540	302,171	315,559	326,499	335,467	343,048		
TOTAL CAPITAL AND LIABIL	425,315	421,781	404,403	375,813	336,648	286,286	302,940	316,353	327,318	336,312	343,478		

Statement Summaries		Count										80	SMEDA
Cash Flow Statement		Rs. in 000's											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
<i>Operating activities</i>													
Net profit	-	53,663	63,420	73,567	84,169	94,717	104,660	110,344	115,188	119,195	122,863		
Add: depreciation expense	-	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924	36,924		
amortization expense	-	1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418	1,418		
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-		
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-		
Accounts receivable	-	(13,908)	(14,325)	(847)	(872)	(899)	(926)	(953)	(982)	(1,011)	(1,042)		
Equipment inventory	(599)	(30)	(31)	(33)	(35)	(36)	(38)	(40)	(42)	(44)	(49)		
Raw material inventory	(7,185)	(216)	(222)	(229)	(236)	(243)	(250)	(257)	(265)	(273)	(281)		
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-		
Advance insurance premium	(17,777)	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778		
Accounts payable	-	659	21	21	22	23	24	24	25	26	(416)		
Other liabilities	-	-	-	-	-	-	-	-	-	-	-		
Cash provided by operations	(25,561)	80,289	88,982	112,600	123,169	133,682	143,590	149,237	154,044	158,013	171,829		
<i>Financing activities</i>													
Change in long term debt	255,189	(36,391)	(42,572)	(49,804)	(58,263)	(68,160)	(0)	-	-	-	-		
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-		
Change in export re-finance fac	-	-	-	-	-	-	-	-	-	-	-		
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-		
Land lease payment	-	-	-	-	-	-	-	-	-	-	-		
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-		
Issuance of shares	170,126	-	-	-	-	-	-	-	-	-	-		
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-		
Cash provided by / (used for) financ	425,315	(36,391)	(42,572)	(49,804)	(58,263)	(68,160)	(0)	-	-	-	-		
<i>Investing activities</i>													
Capital expenditure	(399,255)	-	-	-	-	-	-	-	-	-	-		
Acquisitions	-	-	-	-	-	-	-	-	-	-	-		
Cash (used for) / provided by invest	(399,255)	-	-	-	-	-	-	-	-	-	-		
NET CASH	500	43,898	46,410	62,797	64,905	65,523	143,590	149,237	154,044	158,013	171,829		
Cash balance brought forward	-	500	22,932	31,095	41,516	41,329	29,909	85,470	137,752	187,547	235,333		
Cash available for appropriation	500	44,398	69,342	93,891	106,422	106,852	173,499	234,707	291,796	345,560	401,162		
Dividend	-	21,465	38,247	52,375	65,093	76,942	88,030	96,955	104,248	110,227	115,281		
Cash carried forward	500	22,932	31,095	41,516	41,329	29,909	85,470	137,752	187,547	235,333	291,881		

WEAVING MODEL BRIEF

The financial model to assess the viability of the weaving industry is very flexible, which allows the user to test the viability of the different technologies available under a number of scenarios. The default values in the model are based on historic figures from March 2000. Income tax calculations are based on the system applicable to industrial units exporting 80% of their produce. Sensitivity analysis can be performed at ease through a user friendly interface designed in visual basic.

Some basic assumptions not outlined with the model printout are:

1. The factory area consists of yarn storage, weaving shed, inspection shed, and greige cloth storage. The area for yarn storage is based on the raw material inventory to be stored, weaving shed area is based on the number of installed looms, inspection shed area is based on the amount of cloth to be inspected, and greige cloth storage is based on finished goods inventory to be stored. Space for management building, cafeteria, and grounds is based on rough estimates.
2. Staff requirements and their salaries are based on information obtained from the industry. Personnel have been defined down to the lowest level.
3. Optimal kind of fabric construction for each type of loom of loom has been used. In case of power and auto looms, polyester-cotton yarn counts may go upto 30 single but the machines are incapable of handling high-density fabrics. As mentioned earlier, the fabric construction made on each type of technology can be changed with ease.
4. Sizing and warping has been contracted out for all types of technologies due to the high capital costs associated with setting up this process in-house. The industry normally opts for setting up the sizing and warping process in-house if it weaves large width, i.e. 134", fabrics.
5. Yarn contraction and wastage figures are based on industry averages.
6. Direct electricity expenses are calculated on the basis of motor horsepower of installed looms. Fixed electricity expenses are calculated on the basis of average watts required per square foot of building space depending on the kind of functions to be performed in that space.

POWER LOOMS

Statement Summaries

SMEDA

Key Variables for Power 63"

Revenue related	Value	Rationale
Construction of fabric being produced	20 x 20 / 60 x 60	Optimal construction for this type of technology
Sales price	31	Market rates during March 2000
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Production capacity	2,765,151	Combined capacity of installed looms
Production capacity utilization	75%	Average capacity utilization rate for this type of technology (obtained from industry)

Cost related	Count	Rs. / lb.	Value	Rationale
Warp	20	38		Market rates during March 2000
Weft	20	38		Market rates during March 2000
Cost of goods sold growth rate			3.0%	Historic growth rate
Sizing cost (per meter)			0.89	Obtained from industry
Machine maintenance cost (per meter)			0.47	Obtained from industry
Operating costs growth rate			5.0%	
Total installed Kw			225	Installed electricity connection. Charges are calculated on the basis of hours/day and days/year
Communications exp. (phone, fax, mail, internet, etc.)			0.5%	as % of revenue
Office exp. (stationary, entertainment, janitorial, etc.)			0.5%	as % of administration expense
Promotional exp.			0.5%	as % of revenue
Machinery & equipment insurance rate			3.0%	as % of book value
Office vehicles insurance rate			7.0%	as % of book value
Professional fees (legal, audit, consultants, etc.)			0.5%	as % of revenue
Short term debt interest rate			12%	Current market rate
Inflation rate			8%	Pakistan Economic Survey
Wage growth rate			10%	CAGR over past 5 years from Pakistan Economic Survey

All costs grow at the rate of inflation unless otherwise specified.

Operations related	Value	Rationale
Hours operational / day	24	Continuous operations
Days operational / year	350	Maximum number of working days

Other	Value	Rationale
Dividend rate	50%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure:	Flat Turnover Tax	1% Applicable tax

Financial Evaluation of the Weaving Industry

SMEDA

Key Variables		
Type of Loom		Power 63"
Cost of One Loom		52,000
Number of Looms		108
Total Investment in Project		32,069,255
Debt	60%	19,241,553
Equity	40%	12,827,702
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		12
Total Number of Employees		133

Sensitivity Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	4,462	5,217	4,526	3,736	2,838	1,821	675	(615)	(2,062)	4,951
Interest Costs	2,894	2,463	2,019	1,594	1,203	911	865	978	1,292	1,455
Principal Repayment	2,568	2,755	2,507	2,141	1,635	911	(190)	(1,593)	(3,353)	776
Total Debt Servicing*	5,462	5,217	4,526	3,736	2,838	1,821	675	(615)	(2,062)	2,231
Net Cash Flow to Investors	(1,000)	-	-	-	-	-	-	-	-	2,720

	Equity	Project
IRR	#NUM!	-1%
Payback Period (yrs)	10.00	10.00

*Includes leases if any

Statement Summaries

SMEDA

Initial Investment

Capital Investment		Rs. in 000's
Land		3,172
Building/Infrastructure		13,290
Machinery & equipment		5,920
Furniture & fixtures		10
Office vehicles		1,257
Office equipment		100
Pre-operating costs		3,425
Training costs		-
Total Capital Costs		27,174
Working Capital		Rs. in 000's
Equipment spare part inventory		235
Raw material inventory		3,394
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		266
Cash		1,000
Total Working Capital		4,895
Total Investment		32,069
Initial Financing		Rs. in 000's
Debt		19,242
Equity		12,828
Export re-finance facility		-

Statement Summaries

SMEDA

Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Rs. in 000's	
									Year 9	Year 10
Revenue	64,290	66,218	68,205	70,251	72,359	74,529	76,765	79,068	81,440	83,884
Cost of goods sold	43,553	44,916	46,323	47,775	49,273	50,820	52,417	54,065	55,767	57,523
Gross Profit	20,737	21,303	21,882	22,477	23,085	23,709	24,348	25,003	25,674	26,360
<i>General administration & selling expenses</i>										
Administration expense	6,211	6,816	7,480	8,208	9,007	9,884	10,846	11,902	13,061	14,333
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	6,603	7,131	7,702	8,318	8,983	9,702	10,478	11,316	12,222	13,200
Communications expense (phone, fax, etc.)	321	331	341	351	362	373	384	395	407	419
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	31	34	37	41	45	49	54	60	65	72
Promotional expense	321	331	341	351	362	373	384	395	407	419
Insurance expense	266	239	212	186	159	133	106	80	53	27
Professional fees (legal, audit, etc.)	321	331	341	351	362	373	384	395	407	419
Depreciation expense	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393
Amortization expense	342	342	342	342	342	342	342	342	342	342
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	15,811	16,949	18,190	19,542	21,016	22,622	24,372	26,280	28,358	30,624
Operating Income	4,926	4,353	3,692	2,934	2,070	1,087	(24)	(1,276)	(2,685)	(4,264)
Other income	50	-	-	-	-	-	-	-	-	-
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	4,976	4,353	3,692	2,934	2,070	1,087	(24)	(1,276)	(2,685)	(4,264)
Interest expense	2,894	2,463	2,019	1,594	1,203	911	865	978	1,292	1,455
Earnings Before Tax	2,082	1,891	1,674	1,340	867	177	(889)	(2,254)	(3,977)	(5,719)
Taxable earnings for the year	2,082	1,891	1,674	1,340	867	177	(889)	(3,143)	(7,120)	(12,839)
Tax	643	662	682	703	724	745	768	791	814	839
NET PROFIT/(LOSS) AFTER TAX	1,439	1,228	992	638	143	(568)	(1,656)	(3,045)	(4,791)	(6,558)
Balance brought forward		1,439	2,667	3,659	4,296	4,439	3,871	2,215	(830)	(5,621)
Total profit available for appropriation	1,439	2,667	3,659	4,296	4,439	3,871	2,215	(830)	(5,621)	(12,179)
Dividend	-	-	-	-	-	-	-	-	-	-
Balance carried forward	1,439	2,667	3,659	4,296	4,439	3,871	2,215	(830)	(5,621)	(12,179)

Statement Summaries										SMEDA	
Balance Sheet										Rs. in 000's	
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	1,000	-	-	-	-	-	-	-	-	-	-
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	1,452	1,497	1,544	1,592	1,642	1,694	1,747	1,802	1,859	1,917
Equipment spare part inventory	235	247	260	273	286	301	316	331	348	365	-
Raw material inventory	3,394	3,564	3,742	3,929	4,125	4,332	4,548	4,776	5,014	5,265	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	266	239	212	186	159	133	106	80	53	27	-
Total Current Assets	4,895	5,502	5,711	5,932	6,163	6,407	6,664	6,934	7,218	7,516	1,917
<i>Fixed assets</i>											
Land	3,172	3,172	3,172	3,172	3,172	3,172	3,172	3,172	3,172	3,172	3,172
Building/Infrastructure	13,290	12,626	11,961	11,297	10,632	9,968	9,303	8,639	7,974	7,310	6,645
Machinery & equipment	5,920	5,328	4,736	4,144	3,552	2,960	2,368	1,776	1,184	592	-
Furniture & fixtures	10	9	8	7	6	5	4	3	2	1	-
Office vehicles	1,257	1,132	1,006	880	754	629	503	377	251	126	-
Office equipment	100	90	80	70	60	50	40	30	20	10	-
Total Fixed Assets	23,750	22,356	20,963	19,570	18,177	16,783	15,390	13,997	12,604	11,210	9,817
<i>Intangible assets</i>											
Pre-operation costs	3,425	3,082	2,740	2,397	2,055	1,712	1,370	1,027	685	342	-
Training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	3,425	3,082	2,740	2,397	2,055	1,712	1,370	1,027	685	342	-
TOTAL ASSETS	32,069	30,940	29,414	27,899	26,395	24,903	23,424	21,958	20,506	19,069	11,734
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	163	610	1,856	4,114	7,636	6,725	6,916	8,509	11,862	11,086
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	163	610	1,856	4,114	7,636	6,725	6,916	8,509	11,862	11,086
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	-	-	-	-	-	-	-	-
Long term debt	19,242	16,511	13,309	9,557	5,157	0	-	-	-	-	-
Total Long Term Liabilities	19,242	16,511	13,309	9,557	5,157	0	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	12,828	12,828	12,828	12,828	12,828	12,828	12,828	12,828	12,828	12,828	12,828
Retained earnings	-	1,439	2,667	3,659	4,296	4,439	3,871	2,215	(830)	(5,621)	(12,179)
Total Equity	12,828	14,266	15,495	16,486	17,124	17,267	16,699	15,042	11,997	7,206	648
TOTAL CAPITAL AND LIABILITIES	32,069	30,940	29,414	27,899	26,395	24,903	23,424	21,958	20,506	19,069	11,734

Statement Summaries										SMEDA	
Cash Flow Statement										Rs. in 000's	
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit	-	1,439	1,228	992	638	143	(568)	(1,656)	(3,045)	(4,791)	(6,558)
Add: depreciation expense	-	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393	1,393
amortization expense	-	342	342	342	342	342	342	342	342	342	342
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(235)	(12)	(12)	(13)	(14)	(14)	(15)	(16)	(17)	(17)	365
Raw material inventory	(3,394)	(170)	(178)	(187)	(196)	(206)	(217)	(227)	(239)	(251)	5,265
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(266)	27	27	27	27	27	27	27	27	27	27
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(3,895)	3,019	2,800	2,554	2,190	1,685	962	(137)	(1,538)	(3,297)	835
<i>Financing activities</i>											
Change in long term debt	19,242	(2,731)	(3,201)	(3,753)	(4,399)	(5,157)	(0)	-	-	-	-
Change in short term debt	-	163	447	1,246	2,258	3,522	(911)	190	1,593	3,353	(776)
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	12,828	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activ	32,069	(2,568)	(2,755)	(2,507)	(2,141)	(1,635)	(911)	190	1,593	3,353	(776)
<i>Investing activities</i>											
Capital expenditure	(27,174)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activ	(27,174)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,000	452	45	47	48	50	52	53	55	57	59
Cash balance brought forward	-	1,000	1,452	1,497	1,544	1,592	1,642	1,694	1,747	1,802	1,859
Cash available for appropriation	1,000	1,452	1,497	1,544	1,592	1,642	1,694	1,747	1,802	1,859	1,917
Dividend	-	-	-	-	-	-	-	-	-	-	-
Cash carried forward	1,000	1,452	1,497	1,544	1,592	1,642	1,694	1,747	1,802	1,859	1,917

AUTO LOOMS

Statement Summaries

SMEDA

Key Variables for Auto 63"

Revenue related	Value	Rationale
Construction of fabric being produced	20 x 20 / 60 x 60	Optimal construction for this type of technology
Sales price	31	Market rates during March 2000
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Production capacity	2,765,151	Combined capacity of installed looms
Production capacity utilization	85%	Average capacity utilization rate for this type of technology (obtained from industry)

Cost related	Count	Rs. / lb.	Value	Rationale
Warp	20	38		Market rates during March 2000
Weft	20	38		Market rates during March 2000
Cost of goods sold growth rate			3.0%	Historic growth rate
Sizing cost (per meter)			0.89	Obtained from industry
Machine maintenance cost (per meter)			0.70	Obtained from industry
Operating costs growth rate			5.0%	
Total installed Kw			226	Installed electricity connection. Charges are calculated on the basis of hours/day and days/year
Communications exp. (phone, fax, mail, internet, etc.)			0.5%	as % of revenue
Office exp. (stationary, entertainment, janitorial, etc.)			0.5%	as % of administration expense
Promotional exp.			0.5%	as % of revenue
Machinery & equipment insurance rate			3.0%	as % of book value
Office vehicles insurance rate			7.0%	as % of book value
Professional fees (legal, audit, consultants, etc.)			0.5%	as % of revenue
Short term debt interest rate			12%	Current market rate
Inflation rate			8%	Pakistan Economic Survey
Wage growth rate			10%	CAGR over past 5 years from Pakistan Economic Survey

All costs grow at the rate of inflation unless otherwise specified.

Operations related	Value	Rationale
Hours operational / day	24	Continuous operations
Days operational / year	350	Maximum number of working days

Other	Value	Rationale
Dividend rate	50%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure:	Flat Turnover Tax	1% Applicable tax

Financial Evaluation of the Weaving Industry

SMEDA

Key Variables		
Type of Loom		Auto 63"
Cost of One Loom		84,000
Number of Looms		108
Total Investment in Project		36,104,736
Debt	60%	21,662,842
Equity	40%	14,441,895
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		12
Total Number of Employees		136

Sensitivity Analysis

Total Cash Flow	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	5,604	6,596	5,898	5,077	4,165	3,136	2,031	818	(650)	19,111
Interest Costs	3,247	2,717	2,097	1,444	822	282	50	-	-	-
Principal Repayment	3,075	3,604	4,225	3,767	3,343	2,855	795	-	-	-
Total Debt Servicing*	6,322	6,322	6,322	5,211	4,165	3,136	845	-	-	-
Net Cash Flow to Investors	(718)	275	(423)	(133)	-	-	1,186	818	(650)	19,111

	Equity	Project
IRR	4%	7%
Payback Period (yrs)	9.68	9.16

*Includes leases if any

Statement Summaries

SMEDA

Initial Investment

Capital Investment		Rs. in 000's
Land		3,200
Building/Infrastructure		13,409
Machinery & equipment		9,376
Furniture & fixtures		10
Office vehicles		1,257
Office equipment		100
Pre-operating costs		3,224
Training costs		-
Total Capital Costs		30,576

Working Capital		Rs. in 000's
Equipment spare part inventory		313
Raw material inventory		3,846
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		369
Cash		1,000
Total Working Capital		5,529

Total Investment		Rs. in 000's
		36,105

Initial Financing		Rs. in 000's
Debt		21,663
Equity		14,442
Export re-finance facility		-

Statement Summaries

SMEDA

Income Statement

	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	72,862	75,048	77,299	79,618	82,007	84,467	87,001	89,611	92,299	95,068
Cost of goods sold	49,911	51,483	53,106	54,782	56,513	58,299	60,144	62,049	64,016	66,047
Gross Profit	22,951	23,565	24,193	24,836	25,494	26,168	26,857	27,562	28,283	29,021
<i>General administration & selling expenses</i>										
Administration expense	6,350	6,969	7,647	8,392	9,209	10,105	11,089	12,169	13,354	14,654
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	7,004	7,564	8,169	8,823	9,529	10,291	11,114	12,003	12,964	14,001
Communications expense (phone, fax, etc.)	364	375	386	398	410	422	435	448	461	475
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	32	35	38	42	46	51	55	61	67	73
Promotional expense	364	375	386	398	410	422	435	448	461	475
Insurance expense	369	332	295	259	222	185	148	111	74	37
Professional fees (legal, audit, etc.)	364	375	386	398	410	422	435	448	461	475
Depreciation expense	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745
Amortization expense	322	322	322	322	322	322	322	322	322	322
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	16,915	18,093	19,377	20,776	22,302	23,966	25,779	27,755	29,910	32,258
Operating Income	6,036	5,472	4,816	4,059	3,192	2,202	1,078	(193)	(1,626)	(3,237)
Other income	64	42	35	7	-	-	59	160	168	274
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	6,100	5,514	4,850	4,066	3,192	2,202	1,137	(34)	(1,459)	(2,963)
Interest expense	3,247	2,717	2,097	1,444	822	282	50	-	-	-
Earnings Before Tax	2,853	2,796	2,754	2,622	2,370	1,920	1,087	(34)	(1,459)	(2,963)
Taxable earnings for the year	2,853	2,796	2,754	2,622	2,370	1,920	1,087	(34)	(1,492)	(4,455)
Tax	729	750	773	796	820	845	870	896	923	951
NET PROFIT/(LOSS) AFTER TAX	2,124	2,046	1,981	1,826	1,550	1,075	217	(930)	(2,382)	(3,914)
Balance brought forward		2,124	4,170	6,151	7,977	9,526	10,602	10,819	9,889	7,507
Total profit available for appropriation	2,124	4,170	6,151	7,977	9,526	10,602	10,819	9,889	7,507	3,593
Dividend	-	-	-	-	-	-	-	-	-	1,797
Balance carried forward	2,124	4,170	6,151	7,977	9,526	10,602	10,819	9,889	7,507	1,797

Statement Summaries											SMEDA		
Balance Sheet													
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Rs. in 000's	
Assets													
<i>Current assets</i>													
Cash & Bank	1,000	282	557	133	-	-	-	1,186	2,004	1,354	4,132		
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-		
Finished goods inventory	-	1,664	1,716	1,770	1,826	1,884	1,943	2,005	2,068	2,134	2,202		
Equipment spare part inventory	313	328	345	362	380	399	419	440	462	485	-		
Raw material inventory	3,846	4,039	4,241	4,453	4,675	4,909	5,155	5,412	5,683	5,967	-		
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-		
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-		
Pre-paid insurance	369	332	295	259	222	185	148	111	74	37	-		
Total Current Assets	5,529	6,645	7,154	6,977	7,103	7,377	7,665	9,154	10,291	9,977	6,334		
<i>Fixed assets</i>													
Land	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200		
Building/Infrastructure	13,409	12,738	12,068	11,398	10,727	10,057	9,386	8,716	8,045	7,375	6,704		
Machinery & equipment	9,376	8,438	7,501	6,563	5,626	4,688	3,750	2,813	1,875	938	-		
Furniture & fixtures	10	9	8	7	6	5	4	3	2	1	-		
Office vehicles	1,257	1,132	1,006	880	754	629	503	377	251	126	-		
Office equipment	100	90	80	70	60	50	40	30	20	10	-		
Total Fixed Assets	27,353	25,608	23,863	22,118	20,374	18,629	16,884	15,139	13,394	11,650	9,905		
<i>Intangible assets</i>													
Pre-operation costs	3,224	2,901	2,579	2,256	1,934	1,612	1,289	967	645	322	-		
Training costs	-	-	-	-	-	-	-	-	-	-	-		
Total Intangible Assets	3,224	2,901	2,579	2,256	1,934	1,612	1,289	967	645	322	-		
TOTAL ASSETS	36,105	35,154	33,596	31,352	29,411	27,617	25,838	25,260	24,330	21,949	16,239		
Liabilities & Shareholders' Equity													
<i>Current liabilities</i>													
Accounts payable	-	-	-	-	-	-	-	-	-	-	-		
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-		
Short term debt	-	-	-	-	1,186	3,649	795	-	-	-	-		
Other liabilities	-	-	-	-	-	-	-	-	-	-	-		
Total Current Liabilities	-	-	-	-	1,186	3,649	795	-	-	-	-		
<i>Other liabilities</i>													
Lease payable	-	-	-	-	-	-	-	-	-	-	-		
Deferred tax	-	-	-	-	-	-	-	-	-	-	-		
Long term debt	21,663	18,588	14,984	10,759	5,806	0	-	-	-	-	-		
Total Long Term Liabilities	21,663	18,588	14,984	10,759	5,806	0	-	-	-	-	-		
<i>Shareholders' equity</i>													
Paid-up capital	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442		
Retained earnings	-	2,124	4,170	6,151	7,977	9,526	10,602	10,819	9,889	7,507	1,797		
Total Equity	14,442	16,566	18,612	20,593	22,419	23,968	25,044	25,260	24,330	21,949	16,239		
TOTAL CAPITAL AND LIABILITIES	36,105	35,154	33,596	31,352	29,411	27,617	25,838	25,260	24,330	21,949	16,239		

Statement Summaries											SMEDA		
Cash Flow Statement													
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Rs. in 000's	
<i>Operating activities</i>													
Net profit	-	2,124	2,046	1,981	1,826	1,550	1,075	217	(930)	(2,382)	(3,914)		
Add: depreciation expense	-	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745	1,745		
amortization expense	-	322	322	322	322	322	322	322	322	322	322		
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-		
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-		
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-		
Equipment inventory	(313)	(16)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	485		
Raw material inventory	(3,846)	(192)	(202)	(212)	(223)	(234)	(245)	(258)	(271)	(284)	5,967		
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-		
Advance insurance premium	(369)	37	37	37	37	37	37	37	37	37	37		
Accounts payable	-	-	-	-	-	-	-	-	-	-	-		
Other liabilities	-	-	-	-	-	-	-	-	-	-	-		
Cash provided by operations	(4,529)	4,020	3,931	3,856	3,689	3,401	2,914	2,042	881	(585)	4,643		
<i>Financing activities</i>													
Change in long term debt	21,663	(3,075)	(3,604)	(4,225)	(4,953)	(5,806)	(0)	-	-	-	-		
Change in short term debt	-	-	-	-	1,186	2,463	(2,855)	(795)	-	-	-		
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-		
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-		
Land lease payment	-	-	-	-	-	-	-	-	-	-	-		
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-		
Issuance of shares	14,442	-	-	-	-	-	-	-	-	-	-		
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-		
Cash provided by / (used for) financing activ	36,105	(3,075)	(3,604)	(4,225)	(3,767)	(3,343)	(2,855)	(795)	-	-	-		
<i>Investing activities</i>													
Capital expenditure	(30,576)	-	-	-	-	-	-	-	-	-	-		
Acquisitions	-	-	-	-	-	-	-	-	-	-	-		
Cash (used for) / provided by investing activ	(30,576)	-	-	-	-	-	-	-	-	-	-		
NET CASH	1,000	946	327	(369)	(78)	58	60	1,248	881	(585)	4,643		
Cash balance brought forward	-	1,000	1,946	2,273	1,904	1,826	1,884	1,943	3,191	4,072	3,488		
Cash available for appropriation	1,000	1,946	2,273	1,904	1,826	1,884	1,943	3,191	4,072	3,488	8,130		
Dividend	-	-	-	-	-	-	-	-	-	-	1,797		
Cash carried forward	1,000	1,946	2,273	1,904	1,826	1,884	1,943	3,191	4,072	3,488	6,334		

OLD SULZERS

Statement Summaries

SMEDA

Key Variables for Old Sulzer 134"

Revenue related	Value	Rationale
Construction of fabric being produced	16 x 12 / 108 x 56	Optimal construction for this type of technology
Sales price	57	Market rates during March 2000
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Production capacity	2,743,205	Combined capacity of installed looms
Production capacity utilization	85%	Average capacity utilization rate for this type of technology (obtained from industry)

Cost related	Count	Rs. / lb.	Value	Rationale
Warp	16	43		Market rates during March 2000
Weft	12	33		Market rates during March 2000
Cost of goods sold growth rate			3.0%	Historic growth rate
Sizing cost (per meter)			3.77	Obtained from industry
Machine maintenance cost (per meter)			0.42	Obtained from industry
Operating costs growth rate			5.0%	
Total installed Kw			127	Installed electricity connection. Charges are calculated on the basis of hours/day and days/year
Communications exp. (phone, fax, mail, internet, etc.)			0.5%	as % of revenue
Office exp. (stationary, entertainment, janitorial, etc.)			0.5%	as % of administration expense
Promotional exp.			0.5%	as % of revenue
Machinery & equipment insurance rate			3.0%	as % of book value
Office vehicles insurance rate			7.0%	as % of book value
Professional fees (legal, audit, consultants, etc.)			0.5%	as % of revenue
Short term debt interest rate			12%	Current market rate
Inflation rate			8%	Pakistan Economic Survey
Wage growth rate			10%	CAGR over past 5 years from Pakistan Economic Survey

All costs grow at the rate of inflation unless otherwise specified.

Operations related	Value	Rationale
Hours operational / day	24	Continuous operations
Days operational / year	350	Maximum number of working days

Other	Value	Rationale
Dividend rate	50%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure:	Flat Turnover Tax	1% Applicable tax

Financial Evaluation of the Weaving Industry

SMEDA

Key Variables		
Type of Loom	Old Sulzer 134"	
Cost of One Loom	1,330,000	
Number of Looms	24	
Total Investment in Project	57,455,168	
Debt	60%	34,473,101
Equity	40%	22,982,067
Interest Rate	16%	
Interest Tenure	5	
Interest Payments per year	12	
Total Number of Employees	102	

Sensitivity Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	11,927	14,618	14,108	13,750	13,211	11,977	10,288	8,761	7,209	33,514
Interest Costs	5,167	4,324	3,336	2,178	820	-	-	-	-	-
Principal Repayment	4,893	5,735	6,724	7,882	9,240	0	-	-	-	-
Total Debt Servicing*	10,060	10,060	10,060	10,060	10,060	0	-	-	-	-
Net Cash Flow to Investors	1,867	4,558	4,048	3,690	3,151	11,977	10,288	8,761	7,209	33,514

	Equity	Project
IRR	23%	20%
Payback Period (yrs)	5.39	4.16

*Includes leases if any

Statement Summaries
Initial Investment

SMEDA

Capital Investment		Rs. in 000's
Land		1,717
Building/Infrastructure		7,346
Machinery & equipment		32,302
Furniture & fixtures		18
Office vehicles		1,257
Office equipment		100
Pre-operating costs		4,408
Training costs		-
Total Capital Costs		47,149
Working Capital		Rs. in 000's
Equipment spare part inventory		814
Raw material inventory		7,435
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		1,057
Cash		1,000
Total Working Capital		10,307
Total Investment		57,455
Initial Financing		Rs. in 000's
Debt		34,473
Equity		22,982
Export re-finance facility		-

Statement Summaries
Income Statement

SMEDA

	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	132,908	136,896	141,002	145,232	149,589	154,077	158,699	163,460	168,364	173,415
Cost of goods sold	98,994	102,159	105,429	108,807	112,298	115,904	119,631	123,482	127,461	131,574
Gross Profit	33,914	34,736	35,573	36,425	37,292	38,173	39,069	39,979	40,903	41,841
<i>General administration & selling expenses</i>										
Administration expense	10,214	11,208	12,299	13,497	14,811	16,253	17,836	19,572	21,478	23,569
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	3,930	4,244	4,583	4,950	5,346	5,774	6,236	6,735	7,273	7,855
Communications expense (phone, fax, etc.)	665	684	705	726	748	770	793	817	842	867
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	51	56	61	67	74	81	89	98	107	118
Promotional expense	665	684	705	726	748	770	793	817	842	867
Insurance expense	1,057	951	846	740	634	529	423	317	211	106
Professional fees (legal, audit, etc.)	665	684	705	726	748	770	793	817	842	867
Depreciation expense	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735
Amortization expense	441	441	441	441	441	441	441	441	441	441
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	21,421	22,689	24,081	25,609	27,285	29,124	31,140	33,349	35,771	38,425
Operating Income	12,493	12,048	11,492	10,816	10,006	9,049	7,929	6,629	5,132	3,417
Other income	193	196	308	695	1,037	834	341	194	221	1,018
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	12,687	12,244	11,800	11,511	11,043	9,883	8,270	6,823	5,353	4,435
Interest expense	5,167	4,324	3,336	2,178	820	-	-	-	-	-
Earnings Before Tax	7,520	7,919	8,464	9,333	10,223	9,883	8,270	6,823	5,353	4,435
Taxable earnings for the year	7,520	7,919	8,464	9,333	10,223	9,883	8,270	6,823	5,353	4,435
Tax	1,329	1,369	1,410	1,452	1,496	1,541	1,587	1,635	1,684	1,734
NET PROFIT/(LOSS) AFTER TAX	6,191	6,550	7,054	7,881	8,727	8,342	6,683	5,188	3,669	2,701
Balance brought forward		6,191	6,370	13,424	21,305	30,032	19,187	12,935	9,062	6,365
Total profit available for appropriation	6,191	12,741	13,424	21,305	30,032	38,374	25,870	18,123	12,731	9,067
Dividend	-	6,370	-	-	-	19,187	12,935	9,062	6,365	4,533
Balance carried forward	6,191	6,370	13,424	21,305	30,032	19,187	12,935	9,062	6,365	4,533

Statement Summaries											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
Assets											
<i>Current assets</i>											
Cash & Bank	1,000	2,867	1,055	5,103	8,793	11,944	4,734	2,087	1,786	2,629	17,739
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	3,300	3,405	3,514	3,627	3,743	3,863	3,988	4,116	4,249	4,386
Equipment spare part inventory	814	855	898	943	990	1,039	1,091	1,146	1,203	1,263	-
Raw material inventory	7,435	7,807	8,197	8,607	9,038	9,489	9,964	10,462	10,985	11,534	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	1,057	951	846	740	634	529	423	317	211	106	-
Total Current Assets	10,307	15,780	14,401	18,907	23,081	26,745	20,076	17,999	18,302	19,781	22,125
<i>Fixed assets</i>											
Land	1,717	1,717	1,717	1,717	1,717	1,717	1,717	1,717	1,717	1,717	1,717
Building/Infrastructure	7,346	6,979	6,612	6,244	5,877	5,510	5,142	4,775	4,408	4,040	3,673
Machinery & equipment	32,302	29,072	25,842	22,611	19,381	16,151	12,921	9,691	6,460	3,230	-
Furniture & fixtures	18	16	14	12	11	9	7	5	4	2	-
Office vehicles	1,257	1,132	1,006	880	754	629	503	377	251	126	-
Office equipment	100	90	80	70	60	50	40	30	20	10	-
Total Fixed Assets	42,741	39,006	35,271	31,536	27,801	24,065	20,330	16,595	12,860	9,125	5,390
<i>Intangible assets</i>											
Pre-operation costs	4,408	3,967	3,526	3,086	2,645	2,204	1,763	1,322	882	441	(0)
Training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	4,408	3,967	3,526	3,086	2,645	2,204	1,763	1,322	882	441	(0)
TOTAL ASSETS	57,455	58,753	53,197	53,528	53,527	53,014	42,169	35,917	32,044	29,347	27,515
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	-	-	-	-	-	-	-	-
Long term debt	34,473	29,580	23,845	17,121	9,240	0	-	-	-	-	-
Total Long Term Liabilities	34,473	29,580	23,845	17,121	9,240	0	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	22,982	22,982	22,982	22,982	22,982	22,982	22,982	22,982	22,982	22,982	22,982
Retained earnings	-	6,191	6,370	13,424	21,305	30,032	19,187	12,935	9,062	6,365	4,533
Total Equity	22,982	29,173	29,353	36,406	44,287	53,014	42,169	35,917	32,044	29,347	27,515
TOTAL CAPITAL AND LIABILITIES	57,455	58,753	53,197	53,528	53,527	53,014	42,169	35,917	32,044	29,347	27,515

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
<i>Operating activities</i>											
Net profit	-	6,191	6,550	7,054	7,881	8,727	8,342	6,683	5,188	3,669	2,701
Add: depreciation expense	-	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735	3,735
amortization expense	-	441	441	441	441	441	441	441	441	441	441
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(814)	(41)	(43)	(45)	(47)	(49)	(52)	(55)	(57)	(60)	1,263
Raw material inventory	(7,435)	(372)	(390)	(410)	(430)	(452)	(474)	(498)	(523)	(549)	11,534
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(1,057)	106	106	106	106	106	106	106	106	106	106
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(9,307)	10,060	10,399	10,881	11,685	12,507	12,097	10,412	8,890	7,341	19,780
<i>Financing activities</i>											
Change in long term debt	34,473	(4,893)	(5,735)	(6,724)	(7,882)	(9,240)	(0)	-	-	-	-
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	22,982	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activ	57,455	(4,893)	(5,735)	(6,724)	(7,882)	(9,240)	(0)	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(47,149)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activ	(47,149)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,000	5,167	4,663	4,157	3,803	3,268	12,097	10,412	8,890	7,341	19,780
Cash balance brought forward	-	1,000	6,167	4,460	8,617	12,420	15,687	8,598	6,074	5,902	6,878
Cash available for appropriation	1,000	6,167	10,830	8,617	12,420	15,687	27,785	19,009	14,964	13,243	26,658
Dividend	-	-	6,370	-	-	-	19,187	12,935	9,062	6,365	4,533
Cash carried forward	1,000	6,167	4,460	8,617	12,420	15,687	8,598	6,074	5,902	6,878	22,125

NEW SULZERS

Statement Summaries

SMEDA

Key Variables for New Sulzer 134"

Revenue related	Value	Rationale
Construction of fabric being produced	16 x 12 / 108 x 56	Optimal construction for this type of technology
Sales price	57	Market rates during March 2000
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Production capacity	2,880,366	Combined capacity of installed looms
Production capacity utilization	90%	Average capacity utilization rate for this type of technology (obtained from industry)

Cost related	Count	Rs. / lb.	Value	Rationale
Warp	16	43		Market rates during March 2000
Weft	12	33		Market rates during March 2000
Cost of goods sold growth rate			3.0%	Historic growth rate
Sizing cost (per meter)			3.77	Obtained from industry
Machine maintenance cost (per meter)			0.19	Obtained from industry
Operating costs growth rate			5.0%	
Total installed Kw			113	Installed electricity connection. Charges are calculated on the basis of hours/day and days/year
Communications exp. (phone, fax, mail, internet, etc.)			0.5%	as % of revenue
Office exp. (stationary, entertainment, janitorial, etc.)			0.5%	as % of administration expense
Promotional exp.			0.5%	as % of revenue
Machinery & equipment insurance rate			3.0%	as % of book value
Office vehicles insurance rate			7.0%	as % of book value
Professional fees (legal, audit, consultants, etc.)			0.5%	as % of revenue
Short term debt interest rate			12%	Current market rate
Inflation rate			8%	Pakistan Economic Survey
Wage growth rate			10%	CAGR over past 5 years from Pakistan Economic Survey

All costs grow at the rate of inflation unless otherwise specified.

Operations related	Value	Rationale
Hours operational / day	24	Continuous operations
Days operational / year	350	Maximum number of working days

Other	Value	Rationale
Dividend rate	50%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure:	Flat Turnover Tax	1% Applicable tax

Financial Evaluation of the Weaving Industry

SMEDA

Key Variables		
	New Sulzer 134"	
Type of Loom		
Cost of One Loom	4,127,000	
Number of Looms	18	
Total Investment in Project	100,860,798	
Debt	60%	60,516,479
Equity	40%	40,344,319
Interest Rate	16%	
Interest Tenure	5	
Interest Payments per year	12	
Total Number of Employees	96	

Sensitivity Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	14,861	18,124	17,797	17,354	16,783	16,716	16,398	15,385	14,512	46,783
Interest Costs	9,193	7,820	6,075	4,083	1,815	227	-	-	-	-
Principal Repayment	6,669	10,305	11,721	13,271	14,968	3,583	-	-	-	-
Total Debt Servicing*	15,861	18,124	17,797	17,354	16,783	3,810	-	-	-	-
Net Cash Flow to Investors	(1,000)	-	-	-	-	12,906	16,398	15,385	14,512	46,783

	Equity	Project
IRR	12%	13%
Payback Period (yrs)	7.72	5.97

*Includes leases if any

Statement Summaries

SMEDA

Initial Investment

Capital Investment		Rs. in 000's
Land		1,432
Building/Infrastructure		6,167
Machinery & equipment		74,635
Furniture & fixtures		18
Office vehicles		1,257
Office equipment		100
Pre-operating costs		4,803
Training costs		-
Total Capital Costs		88,412
Working Capital		Rs. in 000's
Equipment spare part inventory		855
Raw material inventory		8,266
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		2,327
Cash		1,000
Total Working Capital		12,448
Total Investment		100,861
Initial Financing		Rs. in 000's
Debt		60,516
Equity		40,344
Export re-finance facility		-

Statement Summaries

SMEDA

Income Statement

	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	147,763	152,196	156,762	161,464	166,308	171,298	176,436	181,730	187,181	192,797
Cost of goods sold	109,455	112,944	116,548	120,271	124,116	128,089	132,194	136,435	140,817	145,344
Gross Profit	38,307	39,252	40,214	41,194	42,192	43,208	44,243	45,295	46,365	47,453
<i>General administration & selling expenses</i>										
Administration expense	9,974	10,946	12,011	13,181	14,464	15,872	17,417	19,113	20,974	23,016
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	3,579	3,865	4,174	4,508	4,869	5,259	5,679	6,134	6,624	7,154
Communications expense (phone, fax, etc.)	739	761	784	807	832	856	882	909	936	964
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	50	55	60	66	72	79	87	96	105	115
Promotional expense	739	761	784	807	832	856	882	909	936	964
Insurance expense	2,327	2,094	1,862	1,629	1,396	1,164	931	698	465	233
Professional fees (legal, audit, etc.)	739	761	784	807	832	856	882	909	936	964
Depreciation expense	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909
Amortization expense	480	480	480	480	480	480	480	480	480	480
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	26,536	27,632	28,848	30,195	31,686	33,333	35,151	37,156	39,366	41,800
Operating Income	11,771	11,619	11,365	10,998	10,506	9,876	9,092	8,139	6,999	5,653
Other income	50	-	-	-	-	645	1,196	1,224	1,583	2,868
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	11,821	11,619	11,365	10,998	10,506	10,521	10,288	9,363	8,582	8,521
Interest expense	9,193	7,820	6,075	4,083	1,815	227	-	-	-	-
Earnings Before Tax	2,629	3,799	5,290	6,915	8,691	10,294	10,288	9,363	8,582	8,521
Taxable earnings for the year	2,629	3,799	5,290	6,915	8,691	10,294	10,288	9,363	8,582	8,521
Tax	1,478	1,522	1,568	1,615	1,663	1,713	1,764	1,817	1,872	1,928
NET PROFIT/(LOSS) AFTER TAX	1,151	2,277	3,722	5,300	7,028	8,581	8,523	7,546	6,710	6,593
Balance brought forward		1,151	3,428	7,150	12,451	19,479	28,060	36,583	45,295	54,188
Total profit available for appropriation	1,151	3,428	7,150	12,451	19,479	28,060	36,583	45,295	54,188	63,341
Dividend	-	-	-	-	-	-	18,291	12,919	9,814	8,204
Balance carried forward	1,151	3,428	7,150	12,451	19,479	28,060	18,291	12,919	9,814	8,204

Statement Summaries											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
Assets											
<i>Current assets</i>											
Cash & Bank	1,000	-	-	-	-	-	12,906	11,012	13,478	18,176	39,187
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	3,649	3,765	3,885	4,009	4,137	4,270	4,406	4,548	4,694	4,845
Equipment spare part inventory	855	898	943	990	1,039	1,091	1,146	1,203	1,263	1,327	-
Raw material inventory	8,266	8,679	9,113	9,569	10,048	10,550	11,077	11,631	12,213	12,824	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	2,327	2,094	1,862	1,629	1,396	1,164	931	698	465	233	-
Total Current Assets	12,448	15,320	15,683	16,073	16,492	16,942	30,329	28,951	31,968	37,253	44,032
<i>Fixed assets</i>											
Land	1,432	1,432	1,432	1,432	1,432	1,432	1,432	1,432	1,432	1,432	1,432
Building/Infrastructure	6,167	5,859	5,550	5,242	4,934	4,625	4,317	4,009	3,700	3,392	3,084
Machinery & equipment	74,635	67,172	59,708	52,245	44,781	37,318	29,854	22,391	14,927	7,464	-
Furniture & fixtures	18	16	14	12	11	9	7	5	4	2	-
Office vehicles	1,257	1,132	1,006	880	754	629	503	377	251	126	-
Office equipment	100	90	80	70	60	50	40	30	20	10	-
Total Fixed Assets	83,610	75,700	67,791	59,882	51,972	44,063	36,154	28,244	20,335	12,425	4,516
<i>Intangible assets</i>											
Pre-operation costs	4,803	4,322	3,842	3,362	2,882	2,401	1,921	1,441	961	480	(0)
Training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	4,803	4,322	3,842	3,362	2,882	2,401	1,921	1,441	961	480	(0)
TOTAL ASSETS	100,861	95,343	87,316	79,316	71,346	63,406	68,404	58,636	53,263	50,159	48,548
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	1,920	1,684	1,766	2,331	3,583	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	1,920	1,684	1,766	2,331	3,583	-	-	-	-	-
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	-	-	-	-	-	-	-	-
Long term debt	60,516	51,928	41,859	30,056	16,220	0	-	-	-	-	-
Total Long Term Liabilities	60,516	51,928	41,859	30,056	16,220	0	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	40,344	40,344	40,344	40,344	40,344	40,344	40,344	40,344	40,344	40,344	40,344
Retained earnings	-	1,151	3,428	7,150	12,451	19,479	28,060	18,291	12,919	9,814	8,204
Total Equity	40,344	41,495	43,773	47,495	52,795	59,823	68,404	58,636	53,263	50,159	48,548
TOTAL CAPITAL AND LIABILITIES	100,861	95,343	87,316	79,316	71,346	63,406	68,404	58,636	53,263	50,159	48,548

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
<i>Operating activities</i>											
Net profit	-	1,151	2,277	3,722	5,300	7,028	8,581	8,523	7,546	6,710	6,593
Add: depreciation expense	-	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909
amortization expense	-	480	480	480	480	480	480	480	480	480	480
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(855)	(43)	(45)	(47)	(49)	(52)	(55)	(57)	(60)	(63)	1,327
Raw material inventory	(8,266)	(413)	(434)	(456)	(478)	(502)	(527)	(554)	(582)	(611)	12,824
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(2,327)	233	233	233	233	233	233	233	233	233	233
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(11,448)	9,317	10,421	11,842	13,395	15,096	16,621	16,534	15,527	14,658	29,365
<i>Financing activities</i>											
Change in long term debt	60,516	(8,589)	(10,068)	(11,803)	(13,836)	(16,220)	(0)	-	-	-	-
Change in short term debt	-	1,920	(236)	81	566	1,252	(3,583)	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	40,344	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activ	100,861	(6,669)	(10,305)	(11,721)	(13,271)	(14,968)	(3,583)	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(88,412)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activ	(88,412)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,000	2,649	116	120	124	128	13,038	16,534	15,527	14,658	29,365
Cash balance brought forward	-	1,000	3,649	3,765	3,885	4,009	4,137	17,175	15,418	18,026	22,870
Cash available for appropriation	1,000	3,649	3,765	3,885	4,009	4,137	17,175	33,710	30,945	32,684	52,236
Dividend	-	-	-	-	-	-	-	18,291	12,919	9,814	8,204
Cash carried forward	1,000	3,649	3,765	3,885	4,009	4,137	17,175	15,418	18,026	22,870	44,032

AIR JETS

Statement Summaries

SMEDA

Key Variables for Air Jet 134"

Revenue related	Value	Rationale
Construction of fabric being produced	16 x 12 / 108 x 56	Optimal construction for this type of technology
Sales price	60	Market rates during March 2000
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Production capacity	2,743,205	Combined capacity of installed looms
Production capacity utilization	97%	Average capacity utilization rate for this type of technology (obtained from industry)

Cost related	Count	Rs. / lb.	Value	Rationale
Warp	16	43		Market rates during March 2000
Weft	12	33		Market rates during March 2000
Cost of goods sold growth rate			3.0%	Historic growth rate
Sizing cost (per meter)			3.77	Obtained from industry
Machine maintenance cost (per meter)			0.04	Obtained from industry
Operating costs growth rate			5.0%	
Total installed Kw			209	Installed electricity connection. Charges are calculated on the basis of hours/day and days/year
Communications exp. (phone, fax, mail, internet, etc.)			0.5%	as % of revenue
Office exp. (stationary, entertainment, janitorial, etc.)			0.5%	as % of administration expense
Promotional exp.			0.5%	as % of revenue
Machinery & equipment insurance rate			3.0%	as % of book value
Office vehicles insurance rate			7.0%	as % of book value
Professional fees (legal, audit, consultants, etc.)			0.5%	as % of revenue
Short term debt interest rate			12%	Current market rate
Inflation rate			8%	Pakistan Economic Survey
Wage growth rate			10%	CAGR over past 5 years from Pakistan Economic Survey

All costs grow at the rate of inflation unless otherwise specified.

Operations related	Value	Rationale
Hours operational / day	24	Continuous operations
Days operational / year	350	Maximum number of working days

Other	Value	Rationale
Dividend rate	50%	Portion of net profit to be distributed to shareholders provided cash is available
Tax structure:	Flat Turnover Tax	1% Applicable tax

Financial Evaluation of the Weaving Industry

SMEDA

Key Variables		
Type of Loom		Air Jet 134"
Cost of One Loom		2,535,000
Number of Looms		12
Total Investment in Project		57,462,266
Debt	60%	34,477,360
Equity	40%	22,984,906
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		12
Total Number of Employees		88

Sensitivity Analysis

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow to Project (after tax)	21,088	24,563	24,130	23,305	23,006	22,468	21,046	19,662	18,171	45,125
Interest Costs	5,168	4,325	3,337	2,178	820	-	-	-	-	-
Principal Repayment	4,893	5,736	6,724	7,883	9,241	0	-	-	-	-
Total Debt Servicing*	10,061	10,061	10,061	10,061	10,061	0	-	-	-	-
Net Cash Flow to Investors	11,027	14,502	14,069	13,244	12,945	22,468	21,046	19,662	18,171	45,125

	Equity	Project
IRR	61%	39%
Payback Period (yrs)	1.76	2.45

*Includes leases if any

Statement Summaries

SMEDA

Initial Investment

Capital Investment		Rs. in 000's
Land		1,196
Building/Infrastructure		5,187
Machinery & equipment		33,864
Furniture & fixtures		18
Office vehicles		1,257
Office equipment		100
Pre-operating costs		4,453
Training costs		-
Total Capital Costs		46,076
Working Capital		Rs. in 000's
Equipment spare part inventory		841
Raw material inventory		8,441
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		1,104
Cash		1,000
Total Working Capital		11,387
Total Investment		57,462
Initial Financing		Rs. in 000's
Debt		34,477
Equity		22,985
Export re-finance facility		-

Statement Summaries

SMEDA

Income Statement

	Rs. in 000's									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	158,832	163,597	168,504	173,560	178,766	184,129	189,653	195,343	201,203	207,239
Cost of goods sold	111,391	114,935	118,595	122,376	126,281	130,315	134,482	138,787	143,235	147,830
Gross Profit	47,440	48,662	49,909	51,184	52,486	53,815	55,171	56,556	57,969	59,409
<i>General administration & selling expenses</i>										
Administration expense	10,602	11,634	12,767	14,010	15,374	16,871	18,513	20,316	22,294	24,464
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	6,813	7,358	7,947	8,582	9,269	10,011	10,811	11,676	12,610	13,619
Communications expense (phone, fax, etc.)	794	818	843	868	894	921	948	977	1,006	1,036
Repairs & renewals	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	53	58	64	70	77	84	93	102	111	122
Promotional expense	794	818	843	868	894	921	948	977	1,006	1,036
Insurance expense	1,104	994	883	773	662	552	442	331	221	110
Professional fees (legal, audit, etc.)	794	818	843	868	894	921	948	977	1,006	1,036
Depreciation expense	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783
Amortization expense	445	445	445	445	445	445	445	445	445	445
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	25,183	26,727	28,417	30,267	32,292	34,508	36,932	39,584	42,483	45,654
Operating Income	22,257	21,935	21,493	20,917	20,193	19,307	18,239	16,972	15,485	13,756
Other income	257	530	617	449	956	1,390	1,125	1,101	1,193	2,109
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	22,515	22,465	22,110	21,365	21,149	20,697	19,364	18,073	16,678	15,864
Interest expense	5,168	4,325	3,337	2,178	820	-	-	-	-	-
Earnings Before Tax	17,347	18,140	18,773	19,187	20,329	20,697	19,364	18,073	16,678	15,864
Taxable earnings for the year	17,347	18,140	18,773	19,187	20,329	20,697	19,364	18,073	16,678	15,864
Tax	1,588	1,636	1,685	1,736	1,788	1,841	1,897	1,953	2,012	2,072
NET PROFIT/(LOSS) AFTER TAX	15,758	16,504	17,088	17,451	18,541	18,856	17,468	16,119	14,666	13,792
Balance brought forward		7,879	12,192	14,640	16,046	34,587	26,721	22,095	19,107	16,886
Total profit available for appropriation	15,758	24,384	29,280	32,091	34,587	53,443	44,189	38,214	33,773	30,678
Dividend	7,879	12,192	14,640	16,046	-	26,721	22,095	19,107	16,886	15,339
Balance carried forward	7,879	12,192	14,640	16,046	34,587	26,721	22,095	19,107	16,886	15,339

Statement Summaries											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
Assets											
<i>Current assets</i>											
Cash & Bank	1,000	4,148	6,458	5,887	3,086	16,031	11,777	10,729	11,284	12,568	29,607
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	3,713	3,831	3,953	4,079	4,209	4,344	4,483	4,626	4,774	4,928
Equipment spare part inventory	841	884	928	974	1,023	1,074	1,128	1,184	1,243	1,305	-
Raw material inventory	8,441	8,863	9,306	9,772	10,260	10,773	11,312	11,878	12,471	13,095	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	1,104	994	883	773	662	552	442	331	221	110	-
Total Current Assets	11,387	18,601	21,406	21,359	19,110	32,639	29,002	28,604	29,845	31,853	34,535
<i>Fixed assets</i>											
Land	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196
Building/Infrastructure	5,187	4,928	4,668	4,409	4,150	3,890	3,631	3,372	3,112	2,853	2,594
Machinery & equipment	33,864	30,478	27,091	23,705	20,319	16,932	13,546	10,159	6,773	3,386	0
Furniture & fixtures	18	16	14	12	11	9	7	5	4	2	-
Office vehicles	1,257	1,132	1,006	880	754	629	503	377	251	126	-
Office equipment	100	90	80	70	60	50	40	30	20	10	-
Total Fixed Assets	41,622	37,839	34,056	30,273	26,489	22,706	18,923	15,139	11,356	7,573	3,789
<i>Intangible assets</i>											
Pre-operation costs	4,453	4,008	3,563	3,117	2,672	2,227	1,781	1,336	891	445	(0)
Training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	4,453	4,008	3,563	3,117	2,672	2,227	1,781	1,336	891	445	(0)
TOTAL ASSETS	57,462	60,448	59,025	54,748	48,271	57,572	49,706	45,079	42,092	39,871	38,324
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	-	-	-	-	-	-	-	-
Long term debt	34,477	29,584	23,848	17,124	9,241	0	-	-	-	-	-
Total Long Term Liabilities	34,477	29,584	23,848	17,124	9,241	0	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	22,985	22,985	22,985	22,985	22,985	22,985	22,985	22,985	22,985	22,985	22,985
Retained earnings	-	7,879	12,192	14,640	16,046	34,587	26,721	22,095	19,107	16,886	15,339
Total Equity	22,985	30,864	35,177	37,625	39,031	57,572	49,706	45,079	42,092	39,871	38,324
TOTAL CAPITAL AND LIABILITIES	57,462	60,448	59,025	54,748	48,271	57,572	49,706	45,079	42,092	39,871	38,324

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in 000's										
<i>Operating activities</i>											
Net profit	-	15,758	16,504	17,088	17,451	18,541	18,856	17,468	16,119	14,666	13,792
Add: depreciation expense	-	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783	3,783
amortization expense	-	445	445	445	445	445	445	445	445	445	445
lease interest exp.	-	-	-	-	-	-	-	-	-	-	-
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(841)	(42)	(44)	(46)	(49)	(51)	(54)	(56)	(59)	(62)	1,305
Raw material inventory	(8,441)	(422)	(443)	(465)	(489)	(513)	(539)	(566)	(594)	(624)	13,095
Int. paid on lease	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(1,104)	110	110	110	110	110	110	110	110	110	110
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(10,387)	19,633	20,356	20,915	21,253	22,316	22,602	21,185	19,805	18,319	32,531
<i>Financing activities</i>											
Change in long term debt	34,477	(4,893)	(5,736)	(6,724)	(7,883)	(9,241)	(0)	-	-	-	-
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	22,985	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activ	57,462	(4,893)	(5,736)	(6,724)	(7,883)	(9,241)	(0)	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(46,076)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activ	(46,076)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,000	14,740	14,620	14,191	13,370	13,075	22,602	21,185	19,805	18,319	32,531
Cash balance brought forward	-	1,000	7,861	10,289	9,840	7,165	20,240	16,121	15,211	15,910	17,343
Cash available for appropriation	1,000	15,740	22,481	24,480	23,210	20,240	42,842	37,306	35,017	34,229	49,874
Dividend	-	7,879	12,192	14,640	16,046	-	26,721	22,095	19,107	16,886	15,339
Cash carried forward	1,000	7,861	10,289	9,840	7,165	20,240	16,121	15,211	15,910	17,343	34,535

Stitching Model Brief

1. The area of the factory is based on the number of stitching machines installed, which in turn determines the production capacity of the stitching unit. Further stitching factory is divided in five halls/rooms, namely cutting room, sampling room, stitching room, inspection room and packing room.
2. The capacity of each of Raw Material store and Finished Garments store is capable to cater the production of fifteen days.
3. The wages of stitching machine operator/sewer correspond to the technical expertise required by the particular stitching task, that is, the complicated sewing, moderately difficult sewing, and simple sewing. These three categories, respectively, require more time per garment as well as expertise to produce shipshape results. Hence the wages vary from task to task. Machine operators are paid at the count of garments processed. Stitching Model assumes piece rate wages for the Machine Operators, Clippers, and Iron Pressing labour. All other staff is paid fixed monthly salary. The model provides the choice of selecting piece-rate human resource or/and permanent fixed paid human resource.
4. It is assumed that all the garments are completed and packed at the end of the day leaving no unfinished garment to be completed on the next working day.
5. It is assumed that the unit has sufficient export orders to remain operative throughout the operational year.
6. The packing of garments is made as per specifications of the client/importer, therefore, its cost may vary as per desire of the buyer.
7. The exports are made on the FOB terms i.e. the exporter has to bear only the cost of inputs, export quota and land freight.
8. The production capacity of stitching unit depends upon the assembly of stitching machines in a specific combination. The optimum combination of stitching machines reduces the number of idle machines/process lag.
9. The financial model provides flexibility to choose any mixture of "Exports sales" and "CMT sales". The export sales price of the finished garment depends upon the demand variables, quality and the marketing of the exporters. Therefore, it varies

from order to order, ranging from US\$ 3.50 to US\$ 4.50 for "PK Polo T-shirt". CMT sales are determined on the basis of piece rate labour cost and a markup of 25%-35% to incorporate overhead costs.

10. The detailed specification of the PK Polo T-shirt is described below:

PK POLO T-SHIRT	
Fabric:	Pique (PK),
Design:	Polo
Size:	Large (C24,L31,S11.5,Ah12)
Dyeing:	Reactive dyeing
Weight:	230 gsm
Yarn:	30/1 combed

PIQUE POLO WITHOUT EXPORTS

Stitching Model Assumptions

Key Variables Garment PK Polo T-shirt

Revenue related	Value	Rationale
Export sales proportion	0%	Production to be exported
CMT sales proportion	100%	Production to be sold on CMT basis
Export Sales price (Rs)	208	Current market rate
CMT Sales price (Rs)	28	Costs plus profit margin
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Total Production (garments/day)	3,062	Combined capacity of installed stitching machines
Garment Acceptance Rate	98%	Obtained from industry, excludes rejected garments)
Cost related	Value	Rationale
Cost of goods sold (including Packing Cost) per garment (Rs)	89	Current market rates
Export Quota cost/garment (Rs)	100	Average market price
Land freight cost/garment (Rs)	2	Current market rates
Cost of goods sold growth rate	3%	Historic growth rate
Operating costs 1 per garment (sub-contracting) (Rs)	35	Obtained from industry (include cost related to dyeing or stone washing)
Operating costs 2 per garment (maintenance) (Rs)	0.38	Obtained from industry
Operating costs growth rate	5%	Historic growth rate
Variable electricity charges per garment (Rs)	0.78	Obtained from industry
Fixed electricity requirements per month (Rs)	87,911	Obtained from industry
Office exp. (stationary, entertainment, janitorial, etc.)	1%	as % of administration expense
Promotional expense	1%	as % of revenue
Machinery & equipment insurance rate	5%	as % of book value
Office vehicles insurance rate	7%	as % of book value
Professional fees (legal, audit, consultants, etc.)	1%	as % of revenue
Short term debt interest rate	12%	Current market rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey
<i>All costs grow at the rate of inflation unless otherwise specified.</i>		
Operations related	Value	Rationale
Hours operational / day	10	Including breaks
Days operational / year	312	Maximum number of working days (by deducting weekly holiday)
Others	Value	Rationale
Defected garment rate (%)	2%	Obtained from industry
Cutting waste rate (%)	18%	Obtained from industry
Number of Stitching Machines installed	101	Optimum combination of Stitching Machines
Flat turnover tax	1%	Applicable tax, ranging from 0.5% to 1% depending upon the export sales turnover.
Income tax rate	35%	Applicable if exports are less than 80% of the total production.
Dollar exchange rate (Rs)	52	Current foreign exchange rate (July,2000)

Financial Evaluation of the Stitching Industry

Key Variables		PK Polo T-shirt
Garment produced		3,062
Production capacity (garment/day)		101
Number of Stitching Machines installed		32,718
Total Investment in Project		19,630.8
Debt	60%	13,087.2
Equity	40%	5
Interest Rate		16%
Interest Tenure		5
Interest Payments per year		12

Total Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Net Cash Flow to Project (after tax)	8,991	8,550	9,487	9,114	8,605	8,070	7,975	7,770
Interest Costs	3,141	2,684	2,154	1,540	827	-	-	-
Principal Repayment	2,855	3,311	3,841	4,456	5,168	(0)	-	-
Total Debt Servicing*	5,995	5,995	5,995	5,995	5,995	(0)	-	-
Net Cash Flow to Investors	2,996	2,554	3,492	3,119	2,609	8,070	7,975	7,770

	Equity	Project
IRR	32%	23%
Payback Period (yrs)	4.16	3.92

*Includes leases if any

Statement Summaries

Initial Investment

Capital Investment		Rs. in '000's
Land		4,068
Building/Infrastructure		8,744
Machinery & equipment		10,030
Furniture & fixtures		273
Office vehicles		934
Office equipment		370
Pre-operating costs		4,491
Training costs		-
Total Capital Costs		28,910

Working Capital		Rs. in '000's
Equipment spare part inventory		2,741
Raw material inventory		-
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		567
Cash		500
Total Working Capital		3,808

Total Investment		
		32,718

Initial Financing		Rs. in '000's
Debt		19,631
Equity		13,087
Export re-finance facility		-

Statement Summaries

Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Revenue	26,415	27,208	28,024	28,865	29,731	30,623	31,541	32,487
Cost of goods sold	364	382	401	421	442	464	487	512
Gross Profit	26,052	26,826	27,623	28,444	29,289	30,158	31,054	31,976
<i>General administration & selling expenses</i>								
Administration expense	10,607	11,639	12,773	14,016	15,381	16,878	18,522	20,325
Land lease rental expense	-	-	-	-	-	-	-	-
Utilities expense	1,797	1,941	2,096	2,264	2,445	2,641	2,852	3,080
Communications expense (phone, fax, etc.)	-	-	-	-	-	-	-	-
Repairs & renewals	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	106	116	128	140	154	169	185	203
Promotional expense	264	272	280	289	297	306	315	325
Insurance expense	567	510	454	397	340	283	227	170
Professional fees (legal, audit, etc.)	132	136	140	144	149	153	158	162
Depreciation expense	1,598	1,598	1,598	1,598	1,598	1,598	1,598	1,598
Amortization expense	449	449	449	449	449	449	449	449
Miscellaneous expense	-	-	-	-	-	-	-	-
Subtotal	15,520	16,662	17,918	19,297	20,813	22,478	24,306	26,313
Operating Income	10,531	10,164	9,705	9,146	8,475	7,681	6,748	5,663
Other income	200	477	780	1,110	1,397	1,931	2,733	3,520
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	10,731	10,641	10,485	10,256	9,872	9,611	9,481	9,183
Interest expense	3,141	2,684	2,154	1,540	827	-	-	-
Earnings Before Tax	7,590	7,957	8,330	8,717	9,045	9,611	9,481	9,183
Taxable earnings for the year	7,590	7,957	8,330	8,717	9,045	9,611	9,481	9,183
Tax	2,657	2,785	2,916	3,051	3,166	3,364	3,318	3,214
NET PROFIT/(LOSS) AFTER TAX	4,934	5,172	5,415	5,666	5,879	6,247	6,162	5,969
Balance brought forward		4,934	10,105	15,520	21,186	27,065	33,312	39,475
Total profit available for appropriation	4,934	10,105	15,520	21,186	27,065	33,312	39,475	45,444
Dividend	-	-	-	-	-	-	-	-
Balance carried forward	4,934	10,105	15,520	21,186	27,065	33,312	39,475	45,444

Statement Summaries

Balance Sheet

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Assets									
<i>Current assets</i>									
Cash & Bank	500	3,496	6,050	9,542	12,661	15,270	23,340	31,315	39,085
Accounts receivable	-	1,270	2,578	2,655	2,735	2,817	2,902	2,989	3,078
Finished goods inventory	-	15	16	17	18	18	19	20	21
Equipment spare part inventory	2,741	2,878	3,022	3,173	3,332	3,498	3,673	3,857	4,050
Raw material inventory	-	-	-	-	-	-	-	-	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-
Pre-paid insurance	567	510	454	397	340	283	227	170	113
Total Current Assets	3,808	8,169	12,120	15,784	19,085	21,887	30,161	38,351	46,347
<i>Fixed assets</i>									
Land	4,068	4,068	4,068	4,068	4,068	4,068	4,068	4,068	4,068
Building/Infrastructure	8,744	8,307	7,869	7,432	6,995	6,558	6,121	5,683	5,246
Machinery & equipment	10,030	9,027	8,024	7,021	6,018	5,015	4,012	3,009	2,006
Furniture & fixtures	273	246	218	191	164	137	109	82	55
Office vehicles	934	841	747	654	561	467	374	280	187
Office equipment	370	333	296	259	222	185	148	111	74
Total Fixed Assets	24,419	22,822	21,224	19,626	18,028	16,430	14,832	13,234	11,636
<i>Intangible assets</i>									
Pre-operation costs	4,491	4,042	3,593	3,144	2,694	2,245	1,796	1,347	898
Training costs	-	-	-	-	-	-	-	-	-
Total Intangible Assets	4,491	4,042	3,593	3,144	2,694	2,245	1,796	1,347	898
TOTAL ASSETS	32,718	35,032	36,936	38,553	39,807	40,562	46,789	52,932	58,881
Liabilities & Shareholders' Equity									
<i>Current liabilities</i>									
Accounts payable	-	203	213	223	235	246	259	272	285
Export re-finance facility	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	203	213	223	235	246	259	272	285
<i>Other liabilities</i>									
Lease payable	-	-	-	-	-	-	-	-	-
Deferred tax	-	33	65	98	131	163	131	98	65
Long term debt	19,631	16,776	13,465	9,624	5,168	(0)	-	-	-
Total Long Term Liabilities	19,631	16,809	13,530	9,722	5,299	163	131	98	65
<i>Shareholders' equity</i>									
Paid-up capital	13,087	13,087	13,087	13,087	13,087	13,087	13,087	13,087	13,087
Retained earnings	-	4,934	10,105	15,520	21,186	27,065	33,312	39,475	45,444
Total Equity	13,087	18,021	23,193	28,607	34,273	40,153	46,400	52,562	58,531
TOTAL CAPITAL AND LIABILITIES	32,718	35,032	36,936	38,553	39,807	40,562	46,789	52,932	58,881

Statement Summaries

Cash Flow Statement

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<i>Operating activities</i>									
Net profit	-	4,934	5,172	5,415	5,666	5,879	6,247	6,162	5,969
Add: depreciation expense	-	1,598	1,598	1,598	1,598	1,598	1,598	1,598	1,598
amortization expense	-	449	449	449	449	449	449	449	449
lease interest exp.	-	-	-	-	-	-	-	-	-
Deferred income tax	-	33	33	33	33	33	(33)	(33)	(33)
Accounts receivable	-	(1,270)	(1,308)	(77)	(80)	(82)	(85)	(87)	(90)
Equipment inventory	(2,741)	(137)	(144)	(151)	(159)	(167)	(175)	(184)	(193)
Raw material inventory	-	-	-	-	-	-	-	-	-
Int. paid on lease	-	-	-	-	-	-	-	-	-
Advance insurance premium	(567)	57	57	57	57	57	57	57	57
Accounts payable	-	203	10	11	11	12	12	13	14
Other liabilities	-	-	-	-	-	-	-	-	-
Cash provided by operations	(3,308)	5,866	5,866	7,333	7,575	7,779	8,071	7,976	7,771
<i>Financing activities</i>									
Change in long term debt	19,631	(2,855)	(3,311)	(3,841)	(4,456)	(5,168)	0	-	-
Change in short term debt	-	-	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-
Issuance of shares	13,087	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	32,718	(2,855)	(3,311)	(3,841)	(4,456)	(5,168)	0	-	-
<i>Investing activities</i>									
Capital expenditure	(28,910)	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(28,910)	-	-	-	-	-	-	-	-
NET CASH	500	3,011	2,555	3,492	3,119	2,610	8,071	7,976	7,771
Cash balance brought forward	-	500	3,511	6,066	9,559	12,678	15,288	23,360	31,335
Cash available for appropriation	500	3,511	6,066	9,559	12,678	15,288	23,360	31,335	39,106
Dividend	-	-	-	-	-	-	-	-	-
Cash carried forward	500	3,511	6,066	9,559	12,678	15,288	23,360	31,335	39,106

PIQUE POLO WITH EXPORTS

Stitching Model Assumptions

Key Variables Garment PK Polo T-shirt

Revenue related	Value	Rationale
Export sales proportion	33%	Production to be exported
CMT sales proportion	67%	Production to be sold on CMT basis
Export Sales price (Rs)	208	Current market rate
CMT Sales price (Rs)	28	Costs plus profit margin
Sales price growth rate	3%	Due to quality improvement through lower defect rates
Total Production (garments/day)	3,062	Combined capacity of installed stitching machines
Garment Acceptance Rate	98%	Obtained from industry, excludes rejected garments
Cost related	Value	Rationale
Cost of goods sold (including Packing Cost) per garment (Rs)	89	Current market rates
Export Quota cost/garment (Rs)	100	Average market price
Land freight cost/garment (Rs)	2	Current market rates
Cost of goods sold growth rate	3%	Historic growth rate
Operating costs 1 per garment (sub-contracting) (Rs)	35	Obtained from industry (include cost related to dyeing or stone washing)
Operating costs 2 per garment (maintenance) (Rs)	0.38	Obtained from industry
Operating costs growth rate	5%	Historic growth rate
Variable electricity charges per garment (Rs)	0.78	Obtained from industry
Fixed electricity requirements per month (Rs)	87,911	Obtained from industry
Office exp. (stationary, entertainment, janitorial, etc.)	1%	as % of administration expense
Promotional expense	1%	as % of revenue
Machinery & equipment insurance rate	5%	as % of book value
Office vehicles insurance rate	7%	as % of book value
Professional fees (legal, audit, consultants, etc.)	1%	as % of revenue
Short term debt interest rate	12%	Current market rate
Inflation rate	8%	Pakistan Economic Survey
Wage growth rate	10%	CAGR over past 5 years from Pakistan Economic Survey
<i>All costs grow at the rate of inflation unless otherwise specified.</i>		
Operations related	Value	Rationale
Hours operational / day	10	Including breaks
Days operational / year	312	Maximum number of working days (by deducting weekly holiday)
Others	Value	Rationale
Defected garment rate (%)	2%	Obtained from industry
Cutting waste rate (%)	18%	Obtained from industry
Number of Stitching Machines installed	101	Optimum combination of Stitching Machines
Flat turnover tax	1%	Applicable tax, ranging from 0.5% to 1% depending upon the export sales turnover.
Income tax rate	35%	Applicable if exports are less than 80% of the total production.
Dollar exchange rate (Rs)	52	Current foreign exchange rate (July,2000)

Financial Evaluation of the Stitching Industry

Key Variables	PK Polo T-shirt
Garment produced	3,062
Production capacity (garment/day)	101
Number of Stitching Machines installed	33,879
Total Investment in Project	20,327.6
Debt	60%
Equity	40%
Interest Rate	16%
Interest Tenure	5
Interest Payments per year	12

Total Cash Flow	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8
Net Cash Flow to Project (after tax)	(10,585)	20,770	19,199	19,342	19,623	19,932	20,749	21,511
Interest Costs	4,354	4,146	2,496	1,595	856	-	-	-
Principal Repayment	(14,416)	16,625	8,153	4,614	5,352	(0)	-	-
Total Debt Servicing*	(10,062)	20,770	10,649	6,208	6,208	(0)	-	-
Net Cash Flow to Investors	(523)	-	8,550	13,134	13,415	19,932	20,749	21,511

	Equity	Project
IRR	48%	35%
Payback Period (yrs)	3.38	3.50

*Includes leases if any

Statement Summaries

Initial Investment

Capital Investment		Rs. in '000's
Land		4,068
Building/Infrastructure		8,744
Machinery & equipment		10,030
Furniture & fixtures		273
Office vehicles		934
Office equipment		370
Pre-operating costs		4,485
Training costs		-
Total Capital Costs		28,904

Working Capital		Rs. in '000's
Equipment spare part inventory		2,741
Raw material inventory		1,168
Upfront land lease rental		-
Upfront machinery & equipment lease rental		-
Upfront office equipment lease rental		-
Upfront office vehicles lease rental		-
Upfront insurance payment		567
Cash		500
Total Working Capital		4,975

Total Investment		
		33,879

Initial Financing		Rs. in '000's
Debt		20,328
Equity		13,552
Export re-finance facility		-

Statement Summaries

Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Revenue	81,962	84,420	86,953	89,562	92,248	95,016	97,866	100,802
Cost of goods sold	71,496	41,408	42,901	44,452	46,062	47,734	49,471	51,276
Gross Profit	10,465	43,012	44,052	45,110	46,186	47,281	48,395	49,526
<i>General administration & selling expenses</i>								
Administration expense	10,607	11,639	12,773	14,016	15,381	16,878	18,522	20,325
Land lease rental expense	-	-	-	-	-	-	-	-
Utilities expense	1,797	1,941	2,096	2,264	2,445	2,641	2,852	3,080
Communications expense (phone, fax, etc.)	-	-	-	-	-	-	-	-
Repairs & renewals	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	106	116	128	140	154	169	185	203
Promotional expense	820	844	870	896	922	950	979	1,008
Insurance expense	567	510	454	397	340	283	227	170
Professional fees (legal, audit, etc.)	410	422	435	448	461	475	489	504
Depreciation expense	1,598	1,598	1,598	1,598	1,598	1,598	1,598	1,598
Amortization expense	448	448	448	448	448	448	448	448
Miscellaneous expense	-	-	-	-	-	-	-	-
Subtotal	16,353	17,520	18,801	20,207	21,750	23,443	25,300	27,337
Operating Income	(5,888)	25,492	25,251	24,902	24,436	23,838	23,095	22,189
Other income	26	-	427	1,512	2,839	4,506	6,541	8,654
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	(5,862)	25,492	25,678	26,414	27,275	28,345	29,635	30,843
Interest expense	4,354	4,146	2,496	1,595	856	-	-	-
Earnings Before Tax	(10,216)	21,346	23,182	24,820	26,419	28,345	29,635	30,843
Taxable earnings for the year	(10,216)	11,131	23,182	24,820	26,419	28,345	29,635	30,843
Tax	-	3,896	8,114	8,687	9,247	9,921	10,372	10,795
NET PROFIT/(LOSS) AFTER TAX	(10,216)	17,451	15,069	16,133	17,172	18,424	19,263	20,048
Balance brought forward		(10,216)	7,235	22,304	38,436	55,609	74,033	93,296
Total profit available for appropriation	(10,216)	7,235	22,304	38,436	55,609	74,033	93,296	113,343
Dividend	-	-	-	-	-	-	-	-
Balance carried forward	(10,216)	7,235	22,304	38,436	55,609	74,033	93,296	113,343

Statement Summaries
Balance Sheet

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Assets									
<i>Current assets</i>									
Cash & Bank	523	-	-	8,550	21,684	35,099	55,031	75,780	97,291
Accounts receivable	-	3,940	7,999	8,239	8,486	8,741	9,003	9,273	9,551
Finished goods inventory	-	2,979	1,725	1,788	1,852	1,919	1,989	2,061	2,136
Equipment spare part inventory	2,741	2,878	3,022	3,173	3,332	3,498	3,673	3,857	4,050
Raw material inventory	1,144	1,201	1,261	1,325	1,391	1,460	1,533	1,610	1,690
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-
Pre-paid insurance	567	510	454	397	340	283	227	170	113
Total Current Assets	4,975	11,509	14,461	23,471	37,085	51,001	71,456	92,751	114,832
<i>Fixed assets</i>									
Land	4,068	4,068	4,068	4,068	4,068	4,068	4,068	4,068	4,068
Building/Infrastructure	8,744	8,307	7,869	7,432	6,995	6,558	6,121	5,683	5,246
Machinery & equipment	10,030	9,027	8,024	7,021	6,018	5,015	4,012	3,009	2,006
Furniture & fixtures	273	246	218	191	164	137	109	82	55
Office vehicles	934	841	747	654	561	467	374	280	187
Office equipment	370	333	296	259	222	185	148	111	74
Total Fixed Assets	24,419	22,822	21,224	19,626	18,028	16,430	14,832	13,234	11,636
<i>Intangible assets</i>									
Pre-operation costs	4,485	4,036	3,588	3,139	2,691	2,242	1,794	1,345	897
Training costs	-	-	-	-	-	-	-	-	-
Total Intangible Assets	4,485	4,036	3,588	3,139	2,691	2,242	1,794	1,345	897
TOTAL ASSETS	33,879	38,367	39,273	46,236	57,803	69,673	88,082	107,330	127,365
Liabilities & Shareholders' Equity									
<i>Current liabilities</i>									
Accounts payable	-	287	302	317	332	349	367	385	404
Export re-finance facility	-	-	-	-	-	-	-	-	-
Short term debt	-	17,372	4,176	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	17,659	4,477	317	332	349	367	385	404
<i>Other liabilities</i>									
Lease payable	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	65	98	131	163	131	98	65
Long term debt	20,328	17,372	13,943	9,966	5,352	(0)	-	-	-
Total Long Term Liabilities	20,328	17,372	14,008	10,064	5,483	163	131	98	65
<i>Shareholders' equity</i>									
Paid-up capital	13,552	13,552	13,552	13,552	13,552	13,552	13,552	13,552	13,552
Retained earnings	-	(10,216)	7,235	22,304	38,436	55,609	74,033	93,296	113,343
Total Equity	13,552	3,336	20,787	35,855	51,988	69,160	87,584	106,847	126,895
TOTAL CAPITAL AND LIABILITIES	33,879	38,367	39,273	46,236	57,803	69,673	88,082	107,330	127,365

Statement Summaries
Cash Flow Statement

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<i>Operating activities</i>									
Net profit	-	(10,216)	17,451	15,069	16,133	17,172	18,424	19,263	20,048
Add: depreciation expense	-	1,598	1,598	1,598	1,598	1,598	1,598	1,598	1,598
amortization expense	-	448	448	448	448	448	448	448	448
lease interest exp.	-	-	-	-	-	-	-	-	-
Deferred income tax	-	-	65	33	33	33	(33)	(33)	(33)
Accounts receivable	-	(3,940)	(4,059)	(2,40)	(2,47)	(2,55)	(2,62)	(2,70)	(2,78)
Equipment inventory	(2,741)	(137)	(144)	(151)	(159)	(167)	(175)	(184)	(195)
Raw material inventory	(1,144)	(57)	(60)	(63)	(66)	(70)	(73)	(77)	(80)
Int. paid on lease	-	-	-	-	-	-	-	-	-
Advance insurance premium	(567)	57	57	57	57	57	57	57	57
Accounts payable	-	287	14	15	16	17	17	18	19
Other liabilities	-	-	-	-	-	-	-	-	-
Cash provided by operations	(4,452)	(11,960)	15,371	16,765	17,812	18,834	20,002	20,821	21,586
<i>Financing activities</i>									
Change in long term debt	20,328	(2,956)	(3,429)	(3,977)	(4,614)	(5,352)	0	-	-
Change in short term debt	-	17,372	(13,196)	(4,176)	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-
Lease principal repayment	-	-	-	-	-	-	-	-	-
Issuance of shares	13,552	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	33,879	14,416	(16,625)	(8,153)	(4,614)	(5,352)	0	-	-
<i>Investing activities</i>									
Capital expenditure	(28,904)	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(28,904)	-	-	-	-	-	-	-	-
NET CASH	523	2,456	(1,254)	8,612	13,199	13,482	20,002	20,821	21,586
Cash balance brought forward	-	523	2,979	1,725	10,337	23,536	37,018	57,020	77,841
Cash available for appropriation	523	2,979	1,725	10,337	23,536	37,018	57,020	77,841	99,427
Dividend	-	-	-	-	-	-	-	-	-
Cash carried forward	523	2,979	1,725	10,337	23,536	37,018	57,020	77,841	99,427

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Pakistan Ready-Made Garments Manufacturers & Exporters Association (PRGMEA)
Pakistan Knitwear and Sweaters Exporters Association
All Pakistan Bed sheet & Upholstery Manufacturers Association
Pakistan Art Silk Fabrics & Garments Association
Pakistan Hosiery Manufacturer Association
All Pakistan Textile Processing Mills Association
All Pakistan Cotton Power Loom Association
Pakistan Small Units Power looms Association
Towel Manufacturer Association Of Pakistan
Pakistan Silk & Rayon Mills Association
All Pakistan Cloth Exporters Association
Pakistan Canvas & Tent Manufacturers Association
Pakistan Cotton Fashion Apparel Manufacturers & Exporters Association
Pakistan Knitwear & Sweaters Exporters Association
Pakistan Bed wears Exporters Association
Karachi Cotton Association, Karachi

Government Agencies / Departments

Ministry of Industries and Production
Ministry of Commerce
Ministry of Finance
State Bank of Pakistan
Textile Commissioner's Organization
Export Promotion Bureau (EPB)
Quota Supervisor Council (QSC)
Central Board of Revenue (CBR)
Foreign Trade Offices (Commercial Counsellors - China, Indonesia, Hong Kong, Bangladesh)
Federal Bureau of Statistics (FBS)
Pakistan Central Cotton Committee (PCCC), Karachi
Trading Corporation of Pakistan, Karachi

Pakistan Cotton Standards Institute, Karachi
Punjab Agriculture Department, Lahore
Central Cotton Research Institute, Multan
Atomic Energy Agriculture Research Centre, Tandojam

Educational and Training Institutions

National College of Textile Engineering, Faisalabad
Textile Institute of Pakistan (TIP), Karachi
Department of Textile Engineering, National University of Engineering & Technology, Karachi.
Pakistan Readymade Garments Technical Training Institute (PRGTTI), Karachi
Pakistan School of Fashion Designing, Lahore
Shahdhra Institute of Technology, Shahdahara
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